



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:

Allied Paper/Portage Creek/Kalamazoo
River Superfund Site

Georgia-Pacific Mill Property
Kalamazoo, Michigan

Respondent: Georgia-Pacific Corporation

ADMINISTRATIVE SETTLEMENT
AGREEMENT AND ORDER ON
CONSENT FOR A REMOVAL ACTION

Docket No. ____ **V_i-W- '07 -C-858**

Proceeding Under Sections 104(a), 107,
122(a) and 122(h) of the Comprehensive
Environmental Response, Compensation,
and Liability Act, as amended, 42 U.S.C.
§§ 9604(a), 9607, 9622(a) and 9622(h)

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent for a Removal Action ("Settlement Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("U.S. EPA") and Respondent. This Settlement Agreement provides for the performance of removal actions by Respondent and the reimbursement of certain response costs incurred by the United States at or in connection with certain disposal areas at: (1) the property located at 2425 King Highway, Kalamazoo, Michigan (the "Kalamazoo Mill"); and (2) the property located immediately east of the Kalamazoo Mill with no known address but which is commonly referred to as the "Hawthorne Mill." A legal description of the Hawthorne Mill is attached hereto as Appendix 1. Respondent represents that Appendix 1 is based upon a 2003 professional survey of the Hawthorne Mill and, to the best of Respondent's knowledge, is an accurate description of the metes and bounds of the two parcels which comprise the Hawthorne Mill. For purposes of this Settlement Agreement, U.S. EPA accepts the accuracy of Appendix 1. The Kalamazoo Mill and a portion of the Hawthorne Mill property currently comprise part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, which is located in Allegan and Kalamazoo Counties, Michigan (the "Site"). U.S. EPA included the Site on the National Priorities List ("NPL") on August 30, 1990.

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104(a), 107, 122(a) and 122(h) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604(a), 9607, 9622(a) and 9622(h), as amended ("CERCLA"). This authority has been delegated to the Administrator of U.S. EPA by Executive Order No. 12580, January 23, 1987, 52 *Fed. Reg.* 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-C and 14-14-D, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A, 14-14-C and 14-14-D.

3. U.S. EPA has notified the State of Michigan (the "State") of this action.

4. U.S. EPA and Respondent recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of facts, conclusions of law, and determinations in Sections IV and V of this Settlement Agreement. Respondent agrees to comply with and be bound by the terms of this Settlement Agreement and further agrees that it will not contest the basis or validity of this Settlement Agreement or its terms.

5. The purposes of this Settlement Agreement are: (1) the performance of a removal action to address the imminent and substantial threat to human health or the environment presented by the release and potential release of hazardous substances and Waste Material from certain waste disposal areas located at the Kalamazoo Mill and the Hawthorne Mill; and (2) to

consolidate Waste Material containing PCBs from these waste disposal areas with wastes in the A-Site Landfill, a disposal area comprising part of Operable Unit #2 of the Site ("OU2"), prior to the performance of the remedy for OU2.

II. PARTIES BOUND

6. This Settlement Agreement applies to and is binding upon U.S. EPA and upon Respondent, its successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Settlement Agreement.

7. Respondent shall ensure that its contractors, subcontractors, and representatives comply with this Settlement Agreement. Respondent shall be responsible for any noncompliance with this Settlement Agreement.

III. DEFINITIONS

8. Unless otherwise expressly provided herein, terms used in this Settlement Agreement which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Action Memorandum" shall mean that document executed by Region 5 of U.S. EPA on October 27, 2006 to authorize and describe the time-critical response actions to be undertaken at the Kalamazoo Mill and the Hawthorne Mill. The Action Memorandum is incorporated into and made a part of this Agreement as Appendix 2.

b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 *et seq.*

c. "Effective Date" shall be the effective date of this Settlement Agreement as provided in Section XXVIII.

d. "Future Response Costs" shall mean all costs, including direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement on or after the Effective Date. Future Response Costs shall also include all costs, including direct and indirect costs, incurred prior to the Effective Date, but paid after that date.

e. "Hawthorne Mill" shall mean that property located immediately east of the Kalamazoo Mill, the legal description of which is attached to this Settlement Agreement as Appendix 1.

f. "Health and Safety Plan" shall mean that document submitted by Respondent to U.S. EPA on October 26, 2006. Respondent submitted a draft Health and Safety Plan to U.S. EPA on September 19, 2006. By letter dated October 3, 2006, U.S. EPA recommended certain modifications to the draft plan. Respondent's final Health and Safety Plan incorporated all of U.S. EPA's recommended modifications.

g. "Interest" shall mean interest at the rate specified for interest on investments of the U.S. EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

h. "Kalamazoo Mill" shall mean that property located at 2425 King Highway, in Kalamazoo Michigan, the legal description of which is attached to this Settlement Agreement as Appendix 3.

i. "MDEQ" shall mean the Michigan Department of Environmental Quality and any successor agencies or departments of the State.

j. "Mill Properties" shall mean, collectively, the Hawthorne Mill and the Kalamazoo Mill.

k. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

l. "Parties" shall mean U.S. EPA and Respondent.

m. "Past Response Costs" shall mean those costs, including, but not limited to, direct and indirect costs, that U.S. EPA has incurred and paid at or in connection with the Mill Properties through January 31, 2006 and that are reflected on the Itemized Cost Summary dated February 23, 2006, attached hereto as Appendix 4. U.S. EPA and Respondent acknowledge that, due to Region 5 Superfund site-specific billing practices, some of the response costs incurred and paid by U.S. EPA for work associated with this Settlement Agreement are not included on Appendix 4, and that U.S. EPA will seek to recoup all such costs during negotiations for the Remedial Design and Remedial Action at the Willow Blvd./A-Site Landfill, Operable Unit #2 of the Site.

n. "PCBs" shall mean polychlorinated biphenyls, which are a "hazardous substance" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

o. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 *et seq.* (also known as the Resource Conservation and Recovery Act).

p. “Respondent” shall mean the Georgia-Pacific Corporation, its successors and assigns.

q. “Settlement Agreement” shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXVII). In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

r. “Site” shall mean the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, located in Allegan and Kalamazoo Counties, Michigan, and depicted generally on the map attached as Appendix 5.

s. “State” shall mean the State of Michigan.

t. “U.S. EPA” shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

u. “Waste Material” shall mean (1) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (3) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (4) any “hazardous substance” under Section 20101(1)(t) of Part 201 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.20101(0) *et seq.*

v. “Work” shall mean all activities Respondent is required to perform under this Settlement Agreement, as specified in the Work Plan and any modifications to the Work Plan made in accordance with this Settlement Agreement.

w. “Work Plan” shall mean the document attached to this Settlement Agreement as Appendix 6, which specifies those response activities required by U.S. EPA under this Settlement Agreement. The Work Plan was approved by U.S. EPA on August 16, 2006, and includes an approved Quality Assurance Project Plan Addendum.

IV. FINDINGS OF FACT

9. Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds that:

a. On August 30, 1990 and pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, U.S. EPA placed the Site on the NPL by publication in the Federal Register, 55 *Fed. Reg.* 35502. The Site was listed after routine surface water and biota sampling at the mouth of the Kalamazoo River indicated that PCBs were discharging to Lake Michigan via the Kalamazoo River, and that these PCBs were widely bioavailable.

b. The Kalamazoo Mill, comprising approximately 45 acres in Kalamazoo County, Michigan, is one of several paper mills identified by the State as having contributed to the release of PCB-contaminated materials in the Kalamazoo River. The Kalamazoo Mill is bordered to the south by King Highway, to the north by railroad tracks and commercial property, to the east by the Hawthorne Mill, and to the southwest and west by the Kalamazoo River.

c. Respondent owned and operated the Kalamazoo Mill between 1967 and 2000. Predecessors to Georgia-Pacific produced paper at the Kalamazoo Mill as early as 1899.

d. Between 1911 and 1976, owners prior to Respondent conducted papermaking operations at the Hawthorne Mill, and disposed of waste paper residuals from those operations in an area generally referred to as the "Oxbow Area" of the Hawthorne Mill. The Oxbow Area, which is surrounded on all sides by the Kalamazoo River, is generally depicted on Appendix 7.

e. Respondent purchased the Hawthorne Mill in 1976, and subsequently dismantled the mill buildings. Respondent has utilized portions of the Hawthorne Mill property as a parking area since its purchase. Respondent did not operate any papermaking equipment or engage in any papermaking processes at the Hawthorne Mill.

f. As part of their papermaking processes at the Kalamazoo Mill, Respondent and its predecessors recycled some waste paper, including carbonless copy paper, that was contaminated with or contained PCBs. Until at least 1971, carbonless copy paper contained PCBs.

g. The recycling process resulted in the production of waste paper residuals contaminated with PCBs at concentrations presenting a risk to human health or the environment.

h. Between 1990 and 1996, pursuant to an agreement with the State, and as part of the Remedial Investigation/Feasibility Study ("RI/FS") for the Site, Respondent conducted an investigation into the nature and extent of contamination at the Kalamazoo Mill (the "Investigation"). The Investigation included the sampling and analysis of soils, solids, sediment and residuals for PCBs and, selectively, polychlorinated dibenzo-dioxins and polychlorinated dibenzo-furans. As a result of the Investigation and under the terms of a Record of Decision for the King Highway Landfill Operable Unit #3 of the Site, Respondent excavated and backfilled five abandoned wastewater lagoons ("Lagoons") and associated floodplains at the Kalamazoo Mill, and consolidated the Waste Material from the Lagoons with the wastes in the King Highway Landfill.

i. In 1999, Respondent discovered an area of the Kalamazoo Mill (commonly referred to as the "Refuse Area") that had not been investigated previously. The Refuse Area is located in the southwest portion of the Kalamazoo Mill Property, immediately adjacent to the Kalamazoo River. The area contained a drum, drum remnants and waste paper residuals. In 1999, under the supervision of MDEQ, Respondent disposed of the drum and drum remnants in off-site landfills.

j. In 2000, at the request of MDEQ, Respondent conducted focused soil and sediment sampling at the Oxbow Area. PCBs were detected in Oxbow Area soils located between .5 feet and 1 foot below surface at concentrations as high as 220 mg/kg.

k. In 2002, Respondent voluntarily conducted additional sampling and analysis of the nature and extent of hazardous substances at the Kalamazoo Mill and the Hawthorne Mill. Respondent discovered that PCBs were present in the Refuse Area soils at concentrations as high as 330 mg/kg. PCBs were detected in the Oxbow Area as high as 490 mg/kg.

l. The Oxbow Area is susceptible to inundation by the Kalamazoo River, creating a threat of migration of PCBs from the contaminated floodplain soils into the sediments and surface water of the Kalamazoo River system.

m. During high water events, a portion of the Refuse Area is inundated with water from the Kalamazoo River, creating a threat of migration of PCBs from the contaminated floodplain soils of the Refuse Area into the sediments and surface water of the Kalamazoo River.

n. PCB levels in sportfish (*e.g.*, bass) from the area of the Kalamazoo River in the vicinity of the Mill Properties average approximately 20 times those levels established by the State of Michigan to protect women and children. Risk assessments regarding fish consumption from the area indicate non-cancer risks (*e.g.* reproductive and immune system effects) ranging from 15 to 98 times acceptable exposure levels. Cancer risks exceed 1 in 10,000 and may be as high as 1 in 1,000.

o. The ecological risk assessment performed by MDEQ for the Site established that ecological receptors (robin and fox) were threatened by the presence of PCBs above a range of 6 to 30 mg/kg in soil.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

10. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, U.S. EPA has determined that:

a. The Kalamazoo Mill is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The Hawthorne Mill is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

c. The contamination found at each facility, as identified in the Findings of Fact above, includes one or more hazardous substances, as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

d. Respondent is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

e. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is liable for performance of response actions and for response costs incurred and to be incurred at the Kalamazoo Mill and Hawthorne Mill facilities.

f. Respondent is the current “owner” and/or “operator” of each facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

g. Respondent was the “owner” and/or “operator” of the Kalamazoo Mill at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2); and the person who arranged for disposal or treatment of hazardous substances at the Kalamazoo Mill, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

h. The conditions described in the Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from each facility into the “environment” as defined by Sections 101(22) and 101(8) of CERCLA, 42 U.S.C. §§ 9601(22) and 9601(8).

I. The conditions present at the Kalamazoo Mill and the Hawthorne Mill constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended (“NCP”), 40 C.F.R. § 300.415(b)(2). These factors include, but are not limited to, the following:

- (1) actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants. This factor is present at the Mill Properties due to the presence of PCBs at concentrations that present a threat to human health or the environment in the wastes, floodplain soils, surface soils and subsurface soils;
- (2) actual or potential contamination of sensitive ecosystems. This factor is present due to the threat of migration of hazardous substances from the Mill Properties to the sensitive ecosystems of Lake Michigan;
- (3) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate. This factor is present at the Mill Properties due to the presence of PCBs in concentrations that present a threat to human health or the environment in floodplain soils at the Refuse Area and at the Oxbow Area.

- (4) weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released. This factor is present at the Mill Properties due to the presence of contaminated soils that are subject to inundation by the waters of the Kalamazoo River on a regular basis during high water events.

j. The removal action required by this Settlement Agreement is necessary to protect the public health, welfare or the environment, 42 U.S.C. § 9604(a)(1), and, if carried out in compliance with the terms of this Settlement Agreement, will be considered consistent with the NCP, 42 U.S.C. §§ 9604(a)(1) and 9622(a).

VI. SETTLEMENT AGREEMENT AND ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for the Site, it is hereby agreed and ordered that Respondent shall comply with all provisions of this Settlement Agreement, including, but not limited to, all appendices to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

11. Respondent shall retain one or more contractors to perform the Work and shall notify U.S. EPA of the name(s) and qualifications of such contractor(s) within 5 business days of the Effective Date. Respondent shall also notify U.S. EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least 5 business days prior to commencement of such Work. U.S. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If U.S. EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify U.S. EPA of that contractor's name and qualifications within 3 business days of U.S. EPA's disapproval. The contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP shall be prepared consistent with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by U.S. EPA.

12. Within 5 business days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Settlement Agreement and shall submit to U.S. EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present at the Mill Properties or readily available during the Work. U.S. EPA retains the right to disapprove of the designated Project Coordinator. If U.S. EPA disapproves of the designated Project Coordinator, Respondent shall retain a

different Project Coordinator and shall notify U.S. EPA of that person's name, address, telephone number, and qualifications within 4 business days following U.S. EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from U.S. EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

13. U.S. EPA has designated Sam Chummar of the Remedial Response Branch 1, Region 5, as its On-Scene Coordinator ("OSC"). Except as otherwise provided in this Settlement Agreement, Respondent shall direct all submissions required by this Settlement Agreement to the OSC to:

Sam Chummar
U.S. EPA Region 5
Remedial Project Manager/Acting On-Scene Coordinator
77 W. Jackson Blvd. SR-6J
Chicago, IL 60604

Respondent is encouraged to make its submissions to U.S. EPA on recycled paper (which includes significant post-consumer waste paper content where possible) and using two-sided copies.

14. U.S. EPA and Respondent shall have the right, subject to Paragraph 12, to change their respective designated OSC or Project Coordinator. U.S. EPA shall notify the Respondent, and Respondent shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. The initial notification may be made orally but it shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

15. Respondents shall perform, at a minimum, all actions necessary to implement the Work Plan. The actions to be implemented generally, include, but are not limited to, the following:

- a. excavation and disposal of all Waste Material in the Refuse Area in accordance with the performance standards specified in the Action Memorandum and the Work Plan;
- b. excavation and disposal of all Waste Material in the Oxbow Area in accordance with the performance standards specified in the Action Memorandum and the Work Plan;
- c. characterization, as specified in the Work Plan, of the Waste Material in the Refuse Area to determine whether such Waste Material is compatible, for disposal purposes, with the PCB-contaminated wastes currently located in the A-Site Landfill, and whether disposal of the Waste Material in the A-Site Landfill is consistent with U.S. EPA's Proposed Plan for OU2; and

- d. disposal of Waste Material in the A-Site Landfill or, as appropriate, off-Site.

16. Work Plan and Implementation.

a. Respondent shall implement the Work Plan as approved by U.S. EPA in accordance with the schedule approved by U.S. EPA. The Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement.

b. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement and the approved Work Plan schedule.

17. Quality Assurance and Sampling.

a. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate U.S. EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by U.S. EPA. U.S. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

b. Upon request by U.S. EPA, Respondent shall have such a laboratory analyze samples submitted by U.S. EPA for QA monitoring. Respondent shall provide to U.S. EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by U.S. EPA, Respondent shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify U.S. EPA not less than 3 business days in advance of any sample collection activity, unless shorter notice is agreed to by U.S. EPA. U.S. EPA shall have the right to take any additional samples that U.S. EPA deems necessary. Upon request, U.S. EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

18. Post-Removal Site Control. In accordance with the Work Plan schedule, or as otherwise directed by U.S. EPA, Respondent shall submit a proposal for post-removal site control consistent with Section 300.415(l) of the NCP and OSWER Directive No. 9360.2-02. Upon U.S. EPA approval, Respondent shall implement such controls and shall provide U.S. EPA with documentation of all post-removal site control arrangements.

19. Reporting.

a. Respondent shall submit a written progress report to U.S. EPA concerning actions undertaken pursuant to this Settlement Agreement every 30th day after the date Work commences pursuant to the Work Plan until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

b. Respondent shall submit three copies of all plans, reports or other submissions required by this Settlement Agreement, the Work Plan, or by any other approved plan. Upon request by U.S. EPA, Respondent shall submit such documents in electronic form.

c. Respondent shall, at least 30 days prior to the conveyance of any interest in real property at the Hawthorne Mill or the Kalamazoo Mill, give written notice to the transferee that the property is subject to this Settlement Agreement and written notice to U.S. EPA and to the State of the proposed conveyance, including the name and address of the transferee. Respondent agrees to require that its successors comply with the immediately preceding sentence and Sections IX (Site Access) and X (Access to Information).

20. Final Report.

Within 60 calendar days after completion of all Work required by Section VIII of this Settlement Agreement, Respondent shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Settlement Agreement. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports" and with the guidance set forth in "Superfund Removal Procedures: Removal Response Reporting – POLREPS and OSC Reports" (OSWER Directive No. 9360.3-03, June 1, 1994). The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the

following certification signed by a person who supervised or directed the preparation of that report:

“Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

21. Off-Site Shipments.

a. Respondent shall, prior to any off-Site shipment of Waste Material from the Mill Properties to an out-of-State waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility’s state and to the On-Scene Coordinator. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

(1) Respondent shall include in the written notification the following information: (i) the name and location of the facility to which the Waste Material is to be shipped; (ii) the type and quantity of the Waste Material to be shipped; (iii) the expected schedule for the shipment of the Waste Material; and (iv) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

(2) The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action. Respondent shall provide the information required by this Paragraph 21 as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-Site location, Respondent shall obtain U.S. EPA’s certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or contaminants from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. SITE ACCESS

22. Respondent shall, commencing on the Effective Date, provide U.S. EPA, the State, and their representatives, including contractors, with access at all reasonable times to the

Site, or such other property, for the purpose of conducting any activity related to this Settlement Agreement.

23. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within 10 business days after the Effective Date, or as otherwise specified in writing by the OSC. Respondent shall immediately notify U.S. EPA if after using its best efforts, Respondent is unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Respondent shall describe in writing its efforts to obtain access. U.S. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as U.S. EPA deems appropriate. Respondent shall reimburse U.S. EPA for all costs and attorneys' fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Response Costs).

24. Notwithstanding any provision of this Settlement Agreement, U.S. EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

25. Respondent shall provide to U.S. EPA, upon request, copies of all documents and information within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to U.S. EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

26. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to U.S. EPA under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by U.S. EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to U.S. EPA, or if U.S. EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

27. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide U.S. EPA with the following: 1) the title of the document, record, or information; 2) the date of the

document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

28. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Mill Properties or the Site.

XI. RECORD RETENTION

29. Until 6 years after Respondent's receipt of U.S. EPA's notification pursuant to Section XXVI (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Mill Properties or the Site, regardless of any corporate retention policy to the contrary. Until 6 years after Respondent's receipt of U.S. EPA's notification pursuant to Section XXIX (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

30. At the conclusion of this document retention period, Respondent shall notify U.S. EPA at least 60 days prior to the destruction of any such records or documents, and, upon request by U.S. EPA, Respondent shall deliver any such records or documents to U.S. EPA. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide U.S. EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

31. Respondent hereby certifies that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by U.S. EPA or the State or the filing of suit against it regarding the Site and that it has fully complied and will fully comply with

any and all U.S. EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

32. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Settlement Agreement shall, to the extent practicable, as determined by U.S. EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements ("ARARs") under federal or state environmental or facility siting laws. The ARARs that will be achieved by the Work shall be identified in the first monthly progress report required pursuant to Paragraph 19 of this Settlement Agreement, and are subject to approval by U.S. EPA.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

33. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and U.S. EPA takes such action instead, Respondent shall reimburse U.S. EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

34. In addition, in the event of any release of a hazardous substance from the Mill Properties or the Site, Respondent shall immediately notify the OSC at (312) 353-2318 and the National Response Center at (800) 424-8802. Respondent shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004 *et seq.*

XIV. AUTHORITY OF ON-SCENE COORDINATOR

35. The OSC shall be responsible for overseeing Respondent's implementation of this Settlement Agreement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement Agreement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

XV. PAYMENT OF RESPONSE COSTS

36. Payment of Past Response Costs.

a. Within 30 days after the Effective Date, Respondent shall pay to U.S. EPA the sum of \$29,207.35 for Past Response Costs. Payment shall be made to U.S. EPA by Electronic Funds Transfer ("EFT") in accordance with current EFT procedures to be provided to Respondent by U.S. EPA Region 5, and shall be accompanied by a statement identifying the name and address of Respondent, the Site name, the operable unit designation ("Georgia-Pacific Mill Property, Operable Unit #6"), the Site/Spill ID Number 059B, and the U.S. EPA docket number for this action.

b. At the time of payment, Respondent shall send notice that such payment has been made to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590 and to Eileen L. Furey, Associate Regional Counsel, 77 West Jackson Boulevard, C-14J, Chicago, Illinois, 60604-3590.

c. The total amount to be paid by Respondent pursuant to Paragraph 36.a shall be deposited, in the sole discretion of U.S. EPA, into the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Special Account or into any other special account created for response actions at the Site, to be retained and used to conduct or finance past and future response actions at or in connection with the Site or to be transferred by U.S. EPA to the U.S. EPA Hazardous Substance Superfund.

37. Payments for Future Response Costs.

a. Respondent shall pay U.S. EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, U.S. EPA will send Respondent a bill requiring payment that consists of an Itemized Cost Summary. Respondent shall make all payments within 30 calendar days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 39 of this Settlement Agreement.

b. All payments required by this Paragraph shall be made via EFT in accordance with current EFT procedures to be provided to Respondents by U.S. EPA Region 5, or by a certified or cashier's check or checks made payable to "U.S. EPA Hazardous Substance Superfund." All payments shall reference the name and address of Respondent, U.S. EPA

Site/Spill ID number 059B, the "Georgia-Pacific Mill Property, Operable Unit #6," and the U.S. EPA docket number for this action. If payment is by certified or cashier's check, Respondent shall send the check(s) to:

U.S. Environmental Protection Agency, Region 5
Superfund Program Accounting & Analysis Section
P.O. Box 371531
Pittsburgh, PA 15251-7531

c. At the time of payment to U.S. EPA, Respondent shall send notice that payment has been made to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590 and to Eileen L. Furey, Associate Regional Counsel, 77 West Jackson Boulevard, C-14J, Chicago, Illinois, 60604-3590.

d. The total amount to be paid by Respondent pursuant to Paragraph 37.a shall be deposited, in the sole discretion of U.S. EPA, into the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Special Account or into any other special account created for response actions at the Site or for the Kalamazoo River Operable Unit of the Site, to be retained and used to conduct or finance past and future response actions at or in connection with the Site or to be transferred by U.S. EPA to the U.S. EPA Hazardous Substance Superfund.

38. In the event that the payment for Past Response Costs is not made within 30 days of the Effective Date, or that the payments for Future Response Costs are not made within 30 days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on the Past Response Costs shall begin to accrue on the Effective Date, and shall continue to accrue until the date of payment. The Interest on Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

39. Respondent may dispute all or part of a bill for Future Response Costs submitted under this Settlement Agreement, only if Respondent alleges that U.S. EPA has made an accounting error, or if Respondent alleges that a cost item is inconsistent with the NCP. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs to U.S. EPA as specified in Paragraph 37 on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit a copy of both checks to the persons listed in Paragraph 37.c above. Respondent shall ensure that the prevailing party in the dispute receives the amount upon which it prevailed from the escrow funds plus interest within 20 calendar days after the dispute is resolved.

XVI. DISPUTE RESOLUTION

40. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

41. If Respondent objects to any U.S. EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, it shall notify U.S. EPA in writing of its objection(s) within 10 calendar days of such action, unless the objection(s) has/have been resolved informally. This written notice shall include a statement of the issues in dispute, the relevant facts upon which the dispute is based, all factual data, analysis or opinion supporting Respondent's position, and all supporting documentation on which Respondent relies. U.S. EPA shall provide its Statement of Position, including supporting documentation, no later than 10 calendar days after receipt of the written notice of dispute. In the event that these 10-day time periods for exchange of written documents may cause a delay in the work, they shall be shortened upon, and in accordance with, notice by U.S. EPA. The time periods for exchange of written documents relating to disputes over billings for response costs may be extended at the sole discretion of U.S. EPA. An administrative record of any dispute under this Section shall be maintained by U.S. EPA. The record shall include the written notification of such dispute, and the Statement of Position served pursuant to the preceding Paragraph. Upon review of the administrative record, the Director of the Superfund Division, U.S. EPA Region 5, shall resolve the dispute consistent with the NCP and the terms of this Settlement Agreement.

42. Respondent's obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with U.S. EPA's decision, whichever occurs.

XVII. FORCE MAJEURE

43. Respondent agrees to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

44. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondent shall notify U.S. EPA orally within 24 hours of when Respondent first knew that the

event might cause a delay. Within 7 calendar days thereafter, Respondent shall provide to U.S. EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall be grounds for U.S. EPA to deny Respondent an extension of time for performance. Respondent shall have the burden of demonstrating by a preponderance of the evidence that the event is a *force majeure*, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay.

45. If U.S. EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by U.S. EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If U.S. EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, U.S. EPA will notify Respondent in writing of its decision. If U.S. EPA agrees that the delay is attributable to a *force majeure* event, U.S. EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

46. Respondent shall be liable to U.S. EPA for stipulated penalties in the amounts set forth in Paragraphs 47 and 48 for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVII (Force Majeure). "Compliance" by Respondent shall include completion of the activities under this Settlement Agreement, the Work Plan or any plan approved under this Settlement Agreement in accordance with all applicable requirements of this Settlement Agreement within the specified time schedules established by and approved under this Settlement Agreement.

47. Stipulated Penalty Amounts - Payment of Response Costs and Work.

The following stipulated penalties shall accrue per violation per day for any failure to pay Past Response Costs or Future Response Costs, or for any noncompliance with a Major Milestone, defined as a due date designation for a submission or task expressly designated as a Major Milestone in the Work Plan or other approved Plan:

| <u>Penalty Per Violation Per Day</u> | <u>Period of Nonpayment or Noncompliance</u> |
|--------------------------------------|--|
| \$500 | 1st through 14th day |
| \$750 | 15th through 30th day |
| \$1,000 | 31st day and beyond |

48. Stipulated Penalty Amounts - Reports. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports pursuant to Paragraphs 19 and 20:

| <u>Penalty Per Violation Per Day</u> | <u>Period of Noncompliance</u> |
|--------------------------------------|--------------------------------|
| \$100 | 1st through 14th day |
| \$250 | 15th through 30th day |
| \$500 | 31st day and beyond |

49. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after U.S. EPA's receipt of such submission until the date that U.S. EPA notifies Respondent of any deficiency; and 2) with respect to a decision by the Director of the Superfund Division, Region 5, under Paragraph 41 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after U.S. EPA submits its written statement of position until the date that the Director of the Superfund Division issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

50. Following U.S. EPA's determination that Respondent has failed to comply with a requirement of this Settlement Agreement, U.S. EPA may give Respondent written notification of the failure and describe the noncompliance. U.S. EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether U.S. EPA has notified Respondent of a violation.

51. All penalties accruing under this Section shall be due and payable to U.S. EPA within 30 days of Respondent's receipt from U.S. EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to U.S. EPA under this Section shall be paid by certified or cashier's check(s) made payable to "U.S. EPA Hazardous Substances Superfund," shall be mailed to U.S. Environmental Protection Agency, Program Accounting & Analysis Section, P.O. Box 70753, Chicago, Illinois 60673, shall indicate that the payment is for stipulated penalties, and shall reference the U.S. EPA Site/Spill ID Number 059B, "Georgia-Pacific Mill Property, Operable Unit #6," the U.S. EPA Docket Number, and the name and address of Respondent. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to U.S. EPA as provided in Paragraph 37.b.

52. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Settlement Agreement.

53. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until 20 days after the dispute is resolved by agreement or by receipt of U.S. EPA's decision.

54. If Respondent fails to pay stipulated penalties when due, U.S. EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 50. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of U.S. EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. §§ 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that U.S. EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Settlement Agreement. Should Respondent violate this Settlement Agreement or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Settlement Agreement pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a). Notwithstanding any other provision of this Section, U.S. EPA may, in its unreviewable discretion, waive in writing any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XIX. COVENANT NOT TO SUE BY U.S. EPA

55. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, U.S. EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work, Past Response Costs, and Future Response Costs. This covenant not to sue shall take effect upon receipt by U.S. EPA of the Past Response Costs due under Section XV of this Settlement Agreement and any Interest or Stipulated Penalties due for failure to pay Past Response Costs as required by Sections XV and XVIII of this Settlement Agreement. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondent of its obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondent and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY U.S. EPA

56. Except as specifically provided in this Settlement Agreement, nothing herein shall

limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Mill Properties or the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

57. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. U.S. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

- a. claims based on a failure by Respondent to meet a requirement of this Settlement Agreement;
- b. liability for costs not included within the definitions of Past Response Costs or Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;
- e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. liability arising from the past, present, or future disposal, release or threat of release of Waste Material outside of the Site;
- g. liability for any other area of the Kalamazoo Mill, the Hawthorne Mill, or operable unit of the Site, including the Kalamazoo River Operable Unit; and
- h. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

XXI. COVENANT NOT TO SUE BY RESPONDENT

58. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Past Response Costs, Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Michigan Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Site.

These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 57(b), (c), and (e) - (h), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

59. Nothing in this Settlement Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXII. OTHER CLAIMS

60. By issuance of this Settlement Agreement, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or U.S. EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement Agreement.

61. Except as expressly provided in Section XIX (Covenant Not to Sue by U.S. EPA), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Section 107 of CERCLA, 42 U.S.C. § 9607.

62. No action or decision by U.S. EPA pursuant to this Settlement Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION

63. a.. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9622(f)(2) and 9622(h)(4), for “matters addressed” in this Settlement Agreement. The “matters addressed” in this Settlement Agreement are the Work, Past Response Costs, and Future Response Costs.

b. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondent has resolved its liability to the United States for Work performed under this Settlement Agreement and for recovery of Past Response Costs and Future Response Costs.

c. Except as provided in Section XXI (Covenant Not to Sue by Respondent), nothing in this Settlement Agreement precludes the United States or Respondent from asserting any claims, causes of action, or demands against any person not a party to this Settlement Agreement for indemnification, contribution, or cost recovery. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that provide contribution protection to such persons.

XXIV. INDEMNIFICATION

64. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys’ fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any such contractor shall be considered an agent of the United States. The Federal Tort Claims Act (28 U.S.C. §§ 2671, 2680) provides coverage for injury or loss of property, or injury or death caused by the negligent or wrongful act or omission of an employee of U.S. EPA while acting within the scope of his or her employment, under circumstances where U.S. EPA, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred.

65. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

66. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Mill Properties, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Mill Properties, including, but not limited to, claims on account of construction delays.

XXV. MODIFICATIONS

67. The OSC may make modifications to any plan or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by U.S. EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement Agreement may be modified in writing by mutual agreement of the parties.

68. If Respondent seeks permission to deviate from any approved work plan or schedule, Respondent's Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 67.

69. No informal advice, guidance, suggestion, or comment by the OSC or other U.S. EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXVI. NOTICE OF COMPLETION OF WORK

70. When U.S. EPA determines, after U.S. EPA's review of the Final Report, that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including, *e.g.*, post-removal site controls, payment of Future Response Costs, and record retention, U.S. EPA will provide written notice to Respondent. If U.S. EPA determines that any such Work has not been completed in accordance with this Settlement Agreement, U.S. EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan if appropriate in order to correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall

submit a modified Final Report in accordance with the U.S. EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Settlement Agreement.

XXVII. SEVERABILITY/INTEGRATION/APPENDICES

71. If a court issues an order that invalidates any provision of this Settlement Agreement or finds that Respondent has sufficient cause not to comply with one or more provisions of this Settlement Agreement, Respondent shall remain bound to comply with all provisions of this Settlement Agreement not invalidated or determined to be subject to a sufficient cause defense by the court's order.

72. This Settlement Agreement and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are incorporated into this Settlement Agreement:

- Appendix 1: Legal description of the Hawthorne Mill property
- Appendix 2: U.S. EPA Action Memorandum
- Appendix 3: Legal description of the Kalamazoo Mill property
- Appendix 4: U.S. EPA Itemized Cost Summary for Operable Unit #6 dated February 23, 2006
- Appendix 5: Map generally depicting the Allied Paper Inc./Portage Creek/Kalamazoo River Site
- Appendix 6: Work Plan
- Appendix 7: Georgia-Pacific Kalamazoo Mill and Hawthorne Mill Site Plan

XXVIII. EFFECTIVE DATE

73. This Settlement Agreement shall be effective upon receipt by Respondent of a copy hereof signed by the Director, Superfund Division, U.S. EPA Region 5.


IN THE MATTER OF:

Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Allegan and Kalamazoo Counties, Michigan

Georgia-Pacific Mill Property, Operable Unit #6

The undersigned representative of Respondent certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the party he or she represents to this document.

Agreed this 7TH day of NOVEMBER, 2006.

For Respondent 

By J. MICHAEL DAVIS

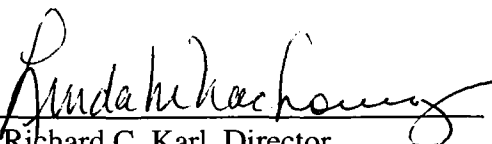
Title CHIEF COUNSEL / ENVIRONMENTAL & REAL ESTATE

IN THE MATTER OF:

Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Allegan and Kalamazoo Counties, Michigan

Georgia-Pacific Mill Property, Operable Unit #6

Agreed this 16th day of November, 2006.

BY: 
Richard C. Karl, Director
Superfund Division
United States Environmental Protection Agency
Region 5

Appendix 1
(Legal Description of the Hawthorne Mill Property)

Parcel 7, Prein & Newhof Survey Dated 4/11/03:

Commencing at the North $\frac{1}{4}$ post of Section 24, T. 2., R. 11 W., Kalamazoo Township, Kalamazoo County, Michigan; thence South 00'-08'-38" East along the North and South $\frac{1}{4}$ line, 1,049.75 feet to the Northerly right-of-way of M-96 Highway and the place of beginning of the land hereinafter described, said point being 1,608.64 feet, North 00'-08'-38" West of the center $\frac{1}{4}$ post of said Section; thence South 75'-18'-44" West along said right-of-way, 458.44 feet; thence continuing along said right-of-way Westerly, 832.39 feet along a curve to the right with a radius of 5,629.65 feet and a chord bearing South 79'-32'-53" West, 831.63 feet to an Intermediate Traverse line along the old channel of the Kalamazoo River, thence along said Traverse line for next 13 courses: North 00'-47'-33" West, 93.01 feet, thence North 12'-12'-07" East, 97.04 feet; thence North 32'-41'-20" East, 106.92 feet; thence North 48'-11'-31" East, 118.13 feet; thence North 67'-19'-11" East, 92.57 feet; thence North 85'-44'-56" East, 232.00 feet; thence South 87'-34'-54" East, 130.74 feet; thence North 73'-37'-54" East, 66.96 feet; thence North 75'-15'-17" East, 167.96 feet; thence North 44'-22'-58" East, 152.85 feet to the North and South $\frac{1}{4}$ line of said Section; thence South 00'-08'-38" East thereon, 419.67 feet to the place of beginning. Together with all land lying between the Intermediate Traverse line and the Kalamazoo River. Containing 10.48 Acres, more or less.

Parcel 8, Prein & Newhof Survey Dated 4/11/03

Commencing at the Northwest corner of Section 24, T. 2 S., R. 11 W., Kalamazoo Township, Kalamazoo County, Michigan; thence South 89'-46'-51" East along the North line of said Section, 898.75 feet; thence South 00'-00'-00" West, 487.24 feet to the Southerly right-of-way line of the N.Y.C. Railroad (formerly Michigan Central Railroad) and the place of beginning of the land hereinafter described; thence Easterly along said right-of-way, 506.83 feet along a curve to the left with a radius of 4,030.00 feet and a chord bearing South 88'-38'-27" East, 506.50 feet; thence continuing along said right-of-way, North 87'-45'-22" East, 1,243.63 feet to the North and South $\frac{1}{4}$ line of said Section, said point being 443.88 South 00'-08'-38" East of the North $\frac{1}{4}$ post; thence South 00'-08'-38" East along said $\frac{1}{4}$ line, 45.00 feet to an Intermediate Traverse line along the old channel of the Kalamazoo River, thence along said Traverse line for the next 10 courses: South 75'-40'-04" West, 99.37 feet; thence South 63'-33'-31" West, 291.51 feet; thence South 75'-09'-41" West, 82.80 feet; thence South 72'-15'-28" West, 453.85 feet; thence 88'-33'-21" West, 131.18 feet; thence South 89'-50'-07" West, 100.17 feet; thence South 69'-36'-59" West, 133.23 feet; thence South 37'-21'-07" West, 128.59 feet; thence South 22'-41'-34" West, 214.36 feet; thence South 01'-04'-11" West, 176.74 feet to the Northerly right-of-way line of M-96 Highway; thence Westerly along said right-of-way, 355.94 feet along a curve to the right with a radius of 5,629.65 feet and a chord bearing South 86'-55'-25" West, 355.88 feet; thence North 03'-31'-49" East, 445.86 feet; thence North 04'-15'-00" West, 424.18 feet to the place of beginning. Together with all land lying between the Intermediate Traverse line and the Kalamazoo River. Containing 15.58 Acres, more or less.

Appendix 2
(U.S. EPA Action Memorandum)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

OCT 27 2006

SUBJECT: ENFORCEMENT ACTION MEMORANDUM – Determination of Threat to Public Health, Welfare, or the Environment at the Georgia-Pacific Kalamazoo and Hawthorne Mills, Part of the Allied Paper Inc./Portage Creek/Kalamazoo River Site in Kalamazoo, Michigan

FROM: Sam Chummar, Remedial Project Manager/ Acting On-Scene Coordinator
Remedial Response Branch 1 – Remedial Response Section 1

TO: Richard C. Karl, Director
Superfund Division

THRU: Linda Nachowicz, Chief
Emergency Response Branch

I. PURPOSE

The purpose of this memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the presence of wastes and soils contaminated with high concentrations of polychlorinated biphenyls ("PCBs") at two properties commonly referred to as the "Kalamazoo Mill" and the "Hawthorne Mill" (jointly, the "Mill Properties"). The Kalamazoo Mill is located at 2425 King Highway in the Township of Kalamazoo, Kalamazoo County, Michigan. The Hawthorne Mill has no known address, but is located adjacent to and immediately east of the Kalamazoo Mill. The Georgia-Pacific Corporation ("GP") currently owns both properties and, between 1967 and 2000, operated a paper manufacturing facility at the Kalamazoo Mill. The Mill Properties are part of the Allied Paper Inc./Portage Creek/Kalamazoo River Site (the "Site"), which was listed on the NPL in 1990.

The removal action proposed herein includes the excavation of PCB-contaminated wastes and soils at concentrations above 10 ppm from several waste disposal areas located on the Mill Properties, and disposal of these wastes and soils at the A-Site portion of the Willow Boulevard/A-Site Landfill, Operable Unit #2 of the Site or, as appropriate, at an approved off-site disposal facility. Region 5 estimates that the total volume of waste material to be excavated and disposed is 35,000 cubic yards (cy). U.S. EPA anticipates that GP will conduct this removal action pursuant to an Administrative Order on Consent ("AOC") currently being negotiated. Due to the release and threatened release of hazardous substances to the environment from the Mill Properties, and the public health threats associated with such releases, this removal action is considered time-critical.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # MID006007306

Physical Location

The Kalamazoo Mill is located approximately two miles east of the downtown area of the City of Kalamazoo. It is bounded by King Highway to the south, railroad tracks and commercial property to the north, the former Hawthorne Mill to the east, and by the Kalamazoo River to the southwest and west. The Hawthorne Mill is located immediately adjacent to and east of the Kalamazoo Mill. It has no known address, but is bounded by King Highway to the south and an undeveloped wooded area to the east. Both properties are bounded by Michigan Avenue to the north.

According to the Region 5 Superfund Environmental Justice (EJ) Analysis for Michigan, the average minority percentage is 21% and the average low income percentage is 29%. To meet EJ criteria, the area within a one mile radius of the site must have a population that is, at minimum, twice the state average minority and/or average low income percentage. There are approximately 6,733 people who live within a one mile radius of the Mill Properties. The minority population is estimated to be 44% and the low income population is estimated to be 49% (See Attachment 2 – Region 5 Superfund EJ Analysis). Therefore, this site meets the Region's EJ criteria based on demographics as identified in Region 5's "Interim guidelines for Identifying and Addressing a Potential EJ Case," June, 1998.

Site Background

Kalamazoo Mill

The Kalamazoo Mill was originally owned by the Wolverine Paper Company until it was sold to the Kalamazoo Paper Company in 1899. GP acquired the property in 1967. The original facility consisted of five mills: three paper mills and two coating mills. Mills 1, 2, and 3 were paper mills, while mills 4 and 5 were used for finishing and converting operations. GP razed Mill 2 in the early 1970s and Mill 5 in the 1980s. Mills 1 and 3 were used as paper mills and Mill 4 as a storage area until GP closed the facility in 2000.

The Kalamazoo Paper Company started deinking waste paper at Mills 1 and 3 in the 1950s. As a result of the deinking process, PCBs became integrated into new paper products, and also became part of the mills' waste streams. Wastewater from this process was discharged directly to the Kalamazoo River until 1954, when the construction of a primary clarifier and on-site dewatering lagoons was completed. Subsequently, the primary clarifier effluent (overflow) was discharged to the Kalamazoo River, while the underflow was pumped into two adjacent lagoons. A clarifier and three lagoons were used during this period to treat and dispose of wastewater from Mill 2. The King Highway dewatering lagoons were constructed on the opposite side of the river in the late 1950s, at which time the mill operators began using the onsite dewatering lagoons as emergency lagoons. In 1980, the onsite dewatering lagoons were partially excavated, filled in with soil, and their use was discontinued.

Hawthorne Mill

Papermaking operations began at the Hawthorne Mill in 1912. Owners previous to GP manufactured high grade bond, ledger, and printing paper, mainly from rag stock, and disposed of waste paper residuals in an area generally referred to as the “Oxbow Area.” The Oxbow Area is surrounded on all sides by the Kalamazoo River, and is subject to periodic inundation. The record is unclear as to whether or not deinking occurred at the Hawthorne Mill. Newspaper reports indicate that the mill engaged in deinking, but the process is inconsistent with types of papers known to have been produced at the mill. PCBs have been detected in a waste sludge discharge pipe that runs from the former location of a clarifier to the Oxbow Area.

GP purchased the Hawthorne Mill from Gould Paper in 1976, and subsequently dismantled the mill buildings, and utilized the space for parking. GP never conducted any papermaking operations at the Hawthorne Mill.

Previous Studies and Other Response Actions

Pursuant to an agreement (Final Order No. DFO-ERD091-001) with the Michigan Department of Natural Resources in 1991, GP initially investigated its Kalamazoo Mill property to assess the nature and extent of PCB impacts associated with the Mill’s five former onsite lagoons (Mill Lagoons #1 through #5), a former wastewater treatment system clarifier, and storm water runoff. GP conducted this investigation in 1993 as part of the Superfund Site Remedial Investigation (RI) activities, and performed follow-up sampling in June 1996.

Based on the findings of the RI, remedial actions at the five former Mill Lagoons commenced in 1999 as part of the King Highway Landfill Operable Unit 3 (KHL-OU#3) response activities. During work at the KHL-OU#3, GP discovered deteriorating metal drums in the heavily vegetated area adjacent to the river to the south and west of Mill Lagoons #4 and #5. This area has since been referred to as the “Refuse Area.” In the initial response at the Refuse Area in June 1999, one of the deteriorating drums was removed and disposed of at the EQ Landfill in Detroit, Michigan. Additionally, GP disposed of approximately 10 cy of material excavated from beneath and adjacent to the drums (e.g., drum remnants, soil, white crystals) in a local Type II landfill.

In the fall of 2002, as part of an effort to evaluate the sale potential of several properties on the company’s books, GP conducted the Kalamazoo Mill Property Divestiture Study. Soil and groundwater samples were collected from areas at the Kalamazoo Mill where available information suggested the potential for PCB-containing materials to be present. PCBs were detected in the Refuse Area, in a wastewater pipeline, and in soils beneath an electrical transformer pad. These results are summarized below.

Refuse Area

During removal and disposal of the drums found in the Refuse Area in June of 1999, GP observed a variety of construction debris and scrap metal in a number of locations, some of

which were visible at the surface. As part of the Kalamazoo Mill Property Divestiture Study, this area was identified as a potential PCB-containing area. In November and December 2002, two soil borings and seven test pits were installed in the Refuse Area, and more than 30 soil samples were collected for PCB analysis.

The seven exploratory test pits were excavated to the depth of the water table. In all cases, the interface between disturbed soils/fill materials and undisturbed native soils was encountered above the groundwater table. Soil sample collection from the Refuse Area test pits was biased toward apparent residuals, if present. In several test pit locations, isolated pockets of residuals were found and discretely sampled. PCB concentrations in the test pit samples ranged from non-detect to a maximum of 330 milligrams per kilogram (mg/kg). The maximum result of 330 mg/kg was for a sample collected from a deposit of residuals located 2.5 to 3 feet below ground surface (bgs).

Additionally, in December 2002 GP collected groundwater samples from two monitoring wells located within the Refuse Area. Neither sample contained detectable levels of PCB at the reporting limit of 0.05 micrograms per liter ($\mu\text{g/L}$).

Wastewater Pipeline Residuals

The Kalamazoo Mill Property Divestiture Study also included the collection of seven soil samples from a wastewater pipeline and a wet well located between the former Mill Lagoons and Mill #1. The wet well is located near the former Mill Lagoons at the end of the wastewater pipeline, which runs northwest from Mill #1.

PCB concentrations in the seven samples associated with the wastewater pipeline and the wet well – which were biased toward apparent residuals where present – ranged from non-detect to a maximum of 31.1 mg/kg in a sample of residuals, scraped from the inside of the wastewater pipeline.

Electrical Transformer Pad Soils

Soil samples were collected from a test pit excavated at the location of a former transformer pad at Mill #1 where stained soils were observed. Four samples were collected between depths of 0 and 5 feet bgs. In the 0 to 1 foot bgs interval, PCBs were detected at a concentration of 2.6 mg/kg. PCBs were not detected in the other three samples.

Oxbow Area of the Hawthorne Mill

During RI activities, GP discovered waste paper residuals in the Oxbow Area of the Hawthorne Mill. GP collected additional samples from this area as part of the 2000 Focused Soil and Sediment Sampling Program conducted for the Superfund Site. PCBs were detected in two samples in the 0.5- to 1-foot layers (220 mg/kg and 2.4 mg/kg). Based on this information, additional sampling was conducted as part of the Kalamazoo Mill Property Divestiture Study to further assess the nature and extent of PCBs in the Oxbow Area. The PCB concentrations in the

Oxbow Area ranged from non-detect to 490 mg/kg. The maximum result of 490 mg/kg was for a sample collected from a deposit of residuals located 0 to 0.5 feet bgs.

A-Site Landfill

Between 1975 and 1987, GP utilized the A-Site Landfill portion of the Willow Boulevard/A-Site (WB/A-Site) Operable Unit #2 for the disposal of dewatered waste residuals from manufacturing operations at the Kalamazoo Mill. MDEQ completed the RI/FS for the Willow Blvd./A-Site OU#2 in November of 2004, and U.S. EPA issued a Proposed Plan for the operable unit on July 15, 2005. The Agency proposed to consolidate and contain PCB-contaminated wastes, soils and sediments in the landfill areas, and install a landfill cap compliant with state and federal applicable and relevant and appropriate requirements ("ARARs"). Region 5 issued a Record of Decision for Operable Unit #2 on September 27, 2006.

III. Threats to Public Health, Welfare, or the Environment, and Statutory and Regulatory Authorities

Conditions at the Mill Properties currently exist which, if not addressed by implementing the response action documented in this Action Memorandum, may present an imminent and substantial endangerment to public health or welfare or the environment. The conditions at the site meet the criteria for a removal action as set forth in the NCP, Section 300.415(b)(2), specifically:

§ 300.415(b)(2)(i): Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substance or pollutants or contaminants;

This factor is present at the Mill Properties because of the existence of high PCB levels in soils near the surface that could potentially come into direct contact with surrounding human and animal populations. The Mill Properties are located in an urban setting, with a mixed industrial and residential population base. While no evidence of trespassing has been found, the area could be used illegally as a recreational area. The elevated levels of PCBs in soils near the surface create a direct contact threat to trespassers and wildlife.

Threatened releases of PCBs into the Kalamazoo River could affect human populations and sensitive aquatic receptors (mink) that consume fish that uptake PCBs in the aquatic environment. A fish advisory has been in effect for portions of the Kalamazoo River, including that portion of the River adjacent to the Mill Properties, since 1977. In April 2003, the Michigan Department of Natural Resources (MDNR) completed work on the human health risk assessment and ecological risk assessment for the Site, which was funded by Region 5. The human health risk assessment concluded the most significant exposure pathway to humans is through the consumption of the fish. The ecological risk assessment concluded that PCB contamination at the Site presents a high to moderate ecological risk for eight animal species, particularly those sensitive ecological receptors such as mink whose diet consists primarily of fish that uptake PCBs or other prey (the American Robin) residing in contaminated floodplain areas.

Table A-1 of the study lists six pages of endangered vertebrates, invertebrates and vascular plant communities potentially affected by the PCB-contamination at the Site.

§ 300.415(b)(2)(ii): Actual or potential contamination of drinking water supplies or sensitive ecosystems;

The Kalamazoo River flows into Lake Michigan, which is considered to be a sensitive ecosystem. The contamination or potential contamination of the Kalamazoo River contributes to contamination of this sensitive ecosystem. This threat exists at the Site due to the high concentration of PCBs in soils near the surface with the potential to migrate to the Kalamazoo River through various mechanisms.

§ 300.415(b)(2)(iv): High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

This factor is present at the Mill Properties due to the existence of high PCB levels in soils near the surface that could migrate. Deposited paper waste, sediment and peat layers have been known to spall and slough due to undercutting by active stream flow in other areas of the Site. These processes may have occurred and/or threaten to occur at the Refuse and Oxbow Areas. The Oxbow Area is located within the 100-year floodplain of the Kalamazoo River, and is susceptible to periodic inundation, creating a threat of migration of PCBs into the sediments and surface water of the Kalamazoo River system. Similarly, during high water events, a portion of the Refuse Area is inundated with water from the Kalamazoo River, creating a threat of migration of PCBs from the contaminated floodplain soils of the Refuse Area into the sediments and surface water of the Kalamazoo River.

Data suggests that PCB migration from these areas may have already occurred. PCB levels in sportfish (*e.g.*, bass) from the area of the Kalamazoo River in the vicinity of the Mill Properties average approximately 20 times those levels established by the State of Michigan to protect women and children. Risk assessments regarding fish consumption from the area indicate non-cancer risks (*e.g.* reproductive and immune system effects) ranging from 15 to 98 times acceptable exposure levels. Cancer risks exceed 1 in 10,000 and may be as high as 1 in 1,000.

§ 300.415(b)(2)(v): Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

This factor is present at the Mill Properties due to the presence of contaminated soils that are subject to inundation by the waters of the Kalamazoo River on a regular basis during high water events. During such an event, river water would be in direct contact with contaminated soils, which in turn, would cause the downstream transport of contaminants.

IV. Endangerment Determination

Given the site conditions at the Mill Properties, the nature of the hazardous substances there, and the potential exposure pathways described above, actual or threatened releases of hazardous substances from the Mill Properties, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

PCBs are hazardous substances as defined by Section 101(14) of CERCLA, and are regulated pursuant to 40 C.F.R. Part 761 of the Toxic Substance Control Act. U.S. EPA has determined that PCBs are probable human carcinogens.

V. Proposed Actions

The proposed excavation of PCB-contaminated wastes and soils from certain areas of the Mill Properties, and disposal of such wastes and soils, as appropriate, in the A-Site Landfill or off-site, will mitigate the public health threat posed by direct human and wildlife contact. Excavation and containment will also mitigate the threats posed by the potential release of PCBs to the Kalamazoo River.

The OSC proposes that GP undertake the following actions to mitigate threats posed by the presence of hazardous substances within the Mill Properties:

Non – Area Specific Actions

1. Prepare and implement a Health and Safety Plan (HASP);
2. Prepare a Sampling Analysis Plan (SAP) Addendum;
3. Prepare a Quality Management Plan; and
4. Prepare a Post-Removal Site Control Proposal;
5. Prepare a list of applicable or relevant and appropriate requirements (ARARs) that may be achieved to the extent practicable.

The SAP addendum, Quality Management Plan, Post-Removal Site Control Proposal, and ARAR list are subject to review and approval by Region 5.

Area Specific Actions

Refuse Area

1. Excavate material containing PCBs above 10 ppm, the performance standard for this removal action. The performance goal for this removal action is 1 ppm.
2. Characterize/segregate material.
3. Dewater saturated material as needed.
4. If U.S. EPA determines that disposal of the excavated material, or any portion thereof, is compatible with the remedy selected for the A-Site Landfill, then GP shall consolidate excavated material with wastes currently at the A-Site Landfill; all wastes determined to be incompatible with the anticipated future remedy at the A-Site

Landfill shall be disposed of off-site in accordance with all applicable federal and state regulations.

5. Perform confirmation sampling.
6. Restore area.
7. Construct erosion controls.

Transformer Pad Area

1. Excavate material containing PCBs above 10 ppm, the performance standard for this removal action. The performance goal for this removal action is 1 ppm.
2. Characterize/segregate material.
3. Dewater saturated material as needed.
4. If U.S. EPA determines that disposal of the excavated material, or any portion thereof, is compatible with the remedy selected for the A-Site Landfill, then GP shall consolidate excavated material with wastes currently at the A-Site Landfill; all wastes determined to be incompatible with the anticipated future remedy at the A-Site Landfill shall be disposed of off-site in accordance with all applicable federal and state regulations.
5. Perform confirmation sampling.
6. Restore area.

Wastewater Pipeline Area

1. Excavate pipeline and wet well.
2. Characterize/segregate material.
3. Dewater saturated material as needed .
4. If U.S. EPA determines that disposal of the excavated material, or any portion thereof, is compatible with the remedy selected for the A-Site Landfill, then GP shall consolidate excavated material with wastes currently at the A-Site Landfill; all wastes determined to be incompatible with the anticipated future remedy at the A-Site Landfill shall be disposed of off-site in accordance with all applicable federal and state regulations
5. Perform confirmation sampling.
6. Restore area.

Oxbow Area

1. Construct erosion controls.
2. Excavate material containing PCBs above 10 ppm, the performance standard for this removal action. The performance goal for this removal action is 1 ppm.
3. Characterize/segregate material.
4. Dewater saturated material as needed.
5. If U.S. EPA determines that disposal of the excavated material, or any portion thereof, is compatible with the remedy selected for the A-Site Landfill, then GP shall consolidate excavated material with wastes currently at the A-Site Landfill; all wastes determined to be incompatible with the anticipated future remedy at the A-Site Landfill shall be disposed of off-site in accordance with all applicable federal and state regulations.

6. Perform confirmation sampling.
7. Restore area.

A-Site

1. Construct erosion controls.
2. Cover the PCB-contaminated soil and residuals in a manner that Region 5 determines will be protective of human health and the environment until the final remedy for the A-Site is implemented.

After excavation, if confirmatory sampling demonstrates that the performance standard of 10 ppm has not been met, additional excavation and confirmation sampling will be required. In the event that the performance goal of 1 ppm is not met, Region 5 will evaluate whether additional excavation and confirmatory sampling is appropriate under circumstances presented at the time and place the sample is obtained.

As noted above, Region 5 anticipates that GP will conduct this removal action under the terms of an AOC currently being negotiated. GP estimates the cost of the work to be performed at \$2 million. In the event negotiations fail, Region 5 will perform a detailed cost estimate for the proposed removal action.

Applicable or Relevant and Appropriate Requirements

On March 27, 2006, Region 5 sent a letter to Paul Bucholtz of MDEQ requesting state ARARs for the proposed removal action. All federal and state ARARs will be complied with to the extent practicable. Pursuant to the terms of the (as yet, draft) AOC, GP will identify the ARARs that will be achieved by the work in its first monthly progress report. The list of ARARs is subject to approval by U.S. EPA.

Transition from Removal to Remedial Response Activities

40 C.F.R. § 300.415(g) requires that, if U.S. EPA determines that a removal action will not fully address the threat posed by the release hazardous substances, and that the release may require a remedial action, then the Agency must ensure an orderly transition from removal to remedial response activities. Because this removal action may not fully address the threat to human health and the environment presented by the release of PCBs at and from the Mill Properties, a transition from removal to remedial response activities may be necessary. Any such transition will include the following:

Satisfaction of the PCB Remediation Waste Rule ARAR

U.S. EPA currently believes that most of the wastes to be excavated from the Mill Properties will be disposed of in the A-Site Landfill portion of the Willow Blvd./A-Site Landfill Operable Unit #2 of the Site. The relevant portions of the PCB Remediation Waste Rule, 40 C.F.R. § 761.61 *et seq.*, are ARARs for both this removal action and the OU#2 remedy. As part of its review of the draft Record of Decision for OU#2, the Region 5 TSCA program evaluated the appropriateness

of permanent consolidation and disposal of the Mill Properties' PCB wastes in the A-Site Landfill. US EPA's issuance of the ROD for OU #2 represents the necessary risk-based disposal approval for this response action.

Final Remedial Action on Floodplains and Mill Properties

With regard to the floodplains associated with the Refuse Area, and the Oxbow Area, Region 5's remedial determination will occur in connection with the remedy decision for the Kalamazoo River Operable Unit #5 of the Site. With regard to any remaining hazardous substances at the Mill Properties, Region 5 is currently evaluating the extent to which additional RI/FS or other response activities are necessary. The confirmation sampling to be conducted as part of this removal action will provide Region 5 with valuable information about the nature and extent of PCBs remaining at the Mill Properties subsequent to the removal action. The actions taken during this removal will not preclude further response actions with more stringent performance standards.

VI. Expected Change in the Situation Should Action Be Delayed or Not Taken

Continued risk to public health and the environment will result if no action or delayed action ensues. Delayed action increases the likelihood that human and/or wildlife populations with access to the area will come into direct contact with PCB-contaminated residuals and soils. Because PCBs are bioaccumulative, intermittent trespassers exposed to PCBs at the Mill Properties may suffer increased body burdens of PCBs. Bioaccumulative effects may also be seen in upper trophic level ecological receptors from ingestion of contaminated prey.

VII. Outstanding Policy Issues

No outstanding policy issues have been identified in relation to the Mill Properties.

VIII. Enforcement

GP, the current owner of the Mill Properties, is expected to conduct the time critical removal action. Region 5 approved the Work Plan submitted by GP for this removal action on August 16, 2006. Region 5 anticipates negotiation of the AOC to be concluded in the near future, and expects that GP will perform the proposed response promptly and properly.

For administrative purposes, information concerning the enforcement strategy for this removal action is contained in the confidential Enforcement Addendum.

IX. Recommendation

This decision document represents the selected time-critical removal action for the Georgia-Pacific Kalamazoo and Hawthorne Mills, which are located in the Township of Kalamazoo, Kalamazoo County, Michigan, and which also comprise a part of the Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site. The removal action has been developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the

Administrative Record for the removal action, an index of which is attached to this Action Memo. Conditions at the Kalamazoo and Hawthorne Mills meet the criteria of Section 300.415(b)(2) of the NCP for a removal action, and I recommend your approval of the proposed removal action. You may indicate your decision by signing below.

APPROVE: Richard C. Kal DATE: 10-27-c
Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

Attachments:

1. Administrative Record Index
2. Region 5 Environmental Justice Analysis
3. *Confidential* Enforcement Addendum

cc: D. Chung, U.S. EPA, 5104A
M. Chezick, U.S. DOI, w/o Enf. Addendum
Steven E. Chester, Director, Michigan DEQ, w/o Enf. Addendum
Michael Cox, Michigan Attorney General, w/o Enf. Addendum

BCC PAGE

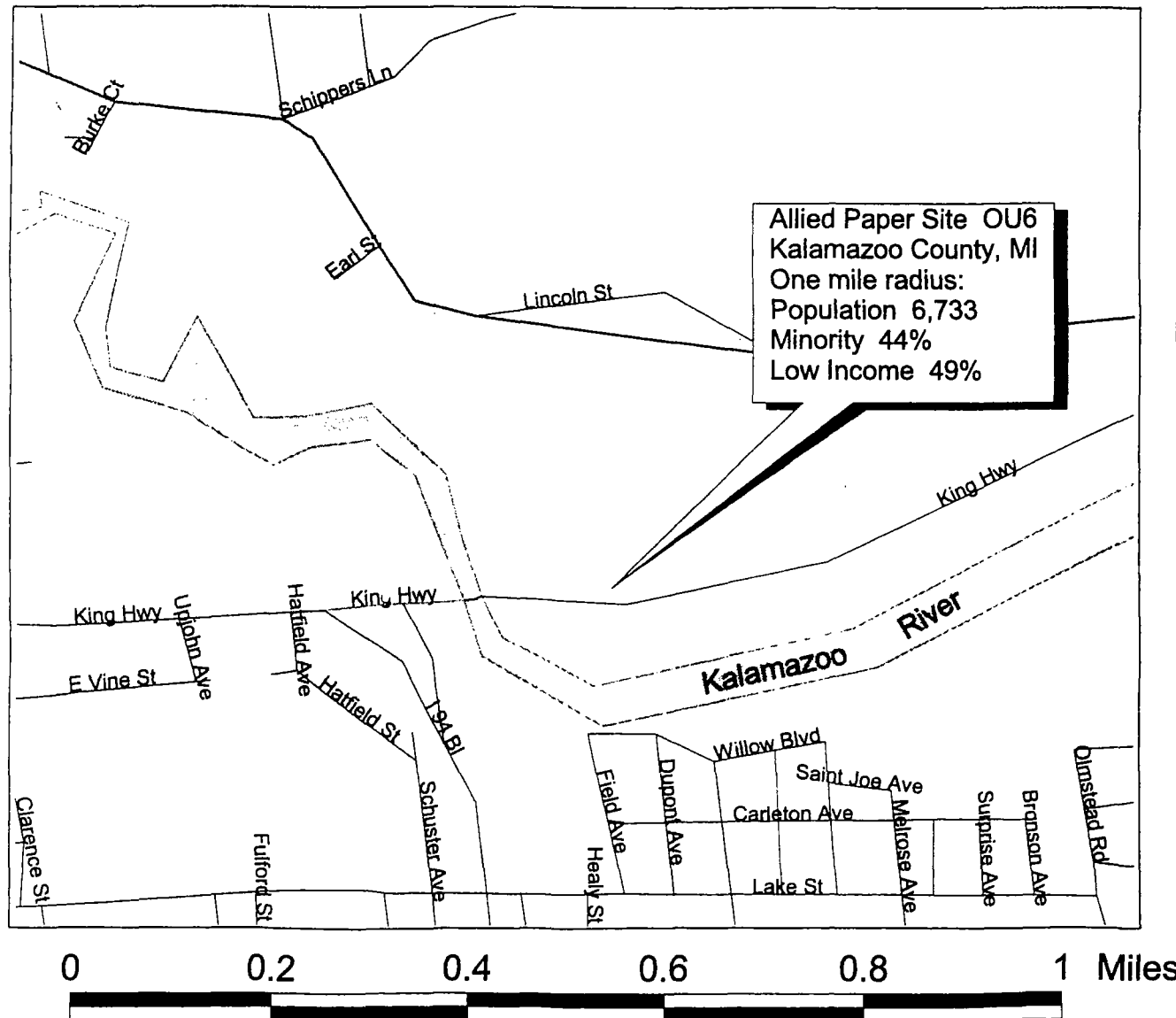
NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

(REDACTED 1 PAGE)

Region 5 Superfund EJ Analysis

Allied Paper Site OU6

Kalamazoo, MI



State of Michigan averages:
Minority: 21%
Low Income: 29%

U.S. EPA Region 5
Environmental Justice Case Criteria
for State of Michigan

Minority: 42% or greater

Low Income: 58% or greater

Date of Map: 10/20/06

Source of Map: Census 2000 Database/
ArcView 3.0

ENFORCEMENT CONFIDENTIAL ADDENDUM

**ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER SITE
GEORGIA-PACIFIC KALAMAZOO MILL AND HAWTHORNE MILL**

(REDACTED 2 PAGES)

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**



ATTACHMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

ADMINISTRATIVE RECORD FOR ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER SITE GEORGIA-PACIFIC KALAMAZOO MILL AND FORMER HAWTHORN MILL OPERABLE UNIT #6 KALAMAZOO, KALAMAZOO COUNTY, MICHIGAN

ORIGINAL
OCTOBER 2, 2006

| <u>NO.</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|-------------|--|------------------|--|--------------|
| 1 | 05/28/70 | Blasland, Bouck & Lee, Inc. | File | Historical Aerial Photo- graph of the Former Hawthorne Mill | 1 |
| 2 | 07/00/92 | Kalamazoo River Study Group | U.S. EPA | Report: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site Description of the Current Situation (Volumes 1-7) | 884 |
| 3 | 06/00/93 | Blasland, Bouck & Lee, Inc. | U.S. EPA | RI/FS Quality Assurance Project Plan for the Allied Paper Site | 665 |
| 4 | 07/00/93 | Blasland & Bouck, Engineers/ Blasland, Bouck & Lee | U.S. EPA | RI/FS Field Sampling Plan for the Allied Paper Site | 269 |
| 5 | 08/00/96 | Blasland, Bouck & Lee, Inc. | U.S. EPA | RI/FS Technical Memorandum 15-Mill Investigation for the Allied Paper Site: Volume 1 of 2 (Text, Tables and Figures) | 71 |
| 6 | 08/00/96 | Blasland, Bouck & Lee, Inc. | U.S. EPA | RI/FS Technical Memorandum 15-Mill Investigation for the Allied Paper Site: Volume 2 of 2 (Appendices) | 552 |
| 7 | 06/00/99 | Camp Dresser & McKee | MDEQ | Final Baseline Ecological Risk Assessment for the Allied Paper/Portage Creek/ Kalamazoo River Site | 170 |
| 8 | 07/00/99 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Remedial Action Turbidity Monitoring Plan for the Allied Paper Site | 11 |
| 9 | 03/00/00 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Report: Response Activi- ties Summary Former Georgia Pacific Corporation Mill Lagoons | 27 |

GEORGIA-PACIFIC KALAMAZOO MILL AND FORMER HAWTHORN MILL OU#6 AR
ORIGINAL
PAGE 2

| <u>NO.</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|-------------|---|----------------------------------|---|--------------|
| 10 | 04/00/00 | von Gunten, B., MDEQ | Saugatuck- Douglas Library | Supplemental Kalamazoo River Sediment and Flood- plain Soils Sampling Plan for the Allied Paper Site w/ Cover Letter | 12 |
| 11 | 03/04/03 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Georgia-Pacific Kalamazoo Paper Mill Property Dives- titure Study-Supporting Materials | 66 |
| 12 | 04/00/03 | MDEQ | File | Final Revised Human Health Risk Assessment for the Allied Paper/ Portage Creek/Kalamazoo River Site | 181 |
| 13 | 11/00/04 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Remedial Investigation/ Focused Feasibility Study for the Willow Boulevard/ A-Site Operable Unit: Volume 1 of 4 (Text, Tables and Figures) | 321 |
| 14 | 11/00/04 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Remedial Investigation/ Focused Feasibility Study for the Willow Boulevard/ A-Site Operable Unit: Volume 2 of 4 (Appendices A-E) | 464 |
| 15 | 11/00/04 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Remedial Investigation/ Focused Feasibility Study for the Willow Boulevard/ A-Site Operable Unit: Volume 3 of 4 (Appendices F-H) | 511 |
| 16 | 11/00/04 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Remedial Investigation/ Focused Feasibility Study for the Willow Boulevard/ A-Site Operable Unit: Volume 4 of 4 (Appendices I-P) | 482 |
| 17 | 12/00/04 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Former Hawthorne Mill Oxbow Sediment Investiga- tion | 331 |
| 18 | 07/00/05 | U.S. EPA | Public | Proposed Plan for Willow Boulevard/A-Site Operable Unit | 10 |
| 19 | 09/30/05 | Gross, K. & P. McGuire, Blasland, Bouck & Lee, Inc. | File | Memorandum re: Former Hawthorne Mill Supplemental Soil Investigation Activities Summary | 27 |

GEORGIA-PACIFIC KALAMAZOO MILL AND FORMER HAWTHORNE MILL OU#6 AR
ORIGINAL
PAGE 3

| <u>NO.</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|-------------|-----------------------------------|---------------------------------|---|--------------|
| 20 | 10/00/05 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Draft Remedial Action Work Plan for the Georgia-Pacific Kalamazoo Mill Property and Former Hawthorne Mill Property | 24 |
| 21 | 11/00/05 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Georgia Pacific Corporation Former Hawthorne Mill Investigation-Related Documents | 258 |
| 22 | 12/15/05 | Krawczyk, K., MDEQ | Kolak, S., U.S. EPA | Letter re: MDEQ Comments on the Draft Remedial Action Work Plan for the Georgia-Pacific Mill Property Operable Unit 6 at the Allied Paper Site | 4 |
| 23 | 03/27/06 | Kolak, S., U.S. EPA | Bucholtz, P., MDEQ | Request for ARARs for the Time-Critical Removal Action at the Georgia-Pacific Kalamazoo Mill and Former Hawthorne Mill Allied Paper Site | 2 |
| 24 | 04/03/06 | Kolak, S., U.S. EPA | Montney, P., Georgia-Pacific | Letter re: U.S. EPA Comments on the Draft Work Plan for a Time-Critical Removal Action at the Refuse Area at the Georgia-Pacific Kalamazoo Mill and Oxbow Area at the Former Hawthorne Mill Properties | 2 |
| 25 | 05/00/06 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Draft Time Critical Removal Action Work Plan for the Refuse Area at the Georgia-Pacific Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property | 26 |
| 26 | 06/00/06 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Draft Quality Assurance Project Plan Addendum for the Time Critical Removal Action for the Refuse Area at the Georgia Pacific Corporation Kalamazoo Mill Property and the Former Hawthorne Mill Property | 78 |
| 27 | 09/00/06 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Draft Health and Safety Plan for the Time Critical Removal Action for the Refuse Area at the Georgia Pacific Corporation Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property | 77 |

GEORGIA-PACIFIC KALAMAZOO MILL AND FORMER HAWTHORN MILL OU#6 AR
ORIGINAL
PAGE 4

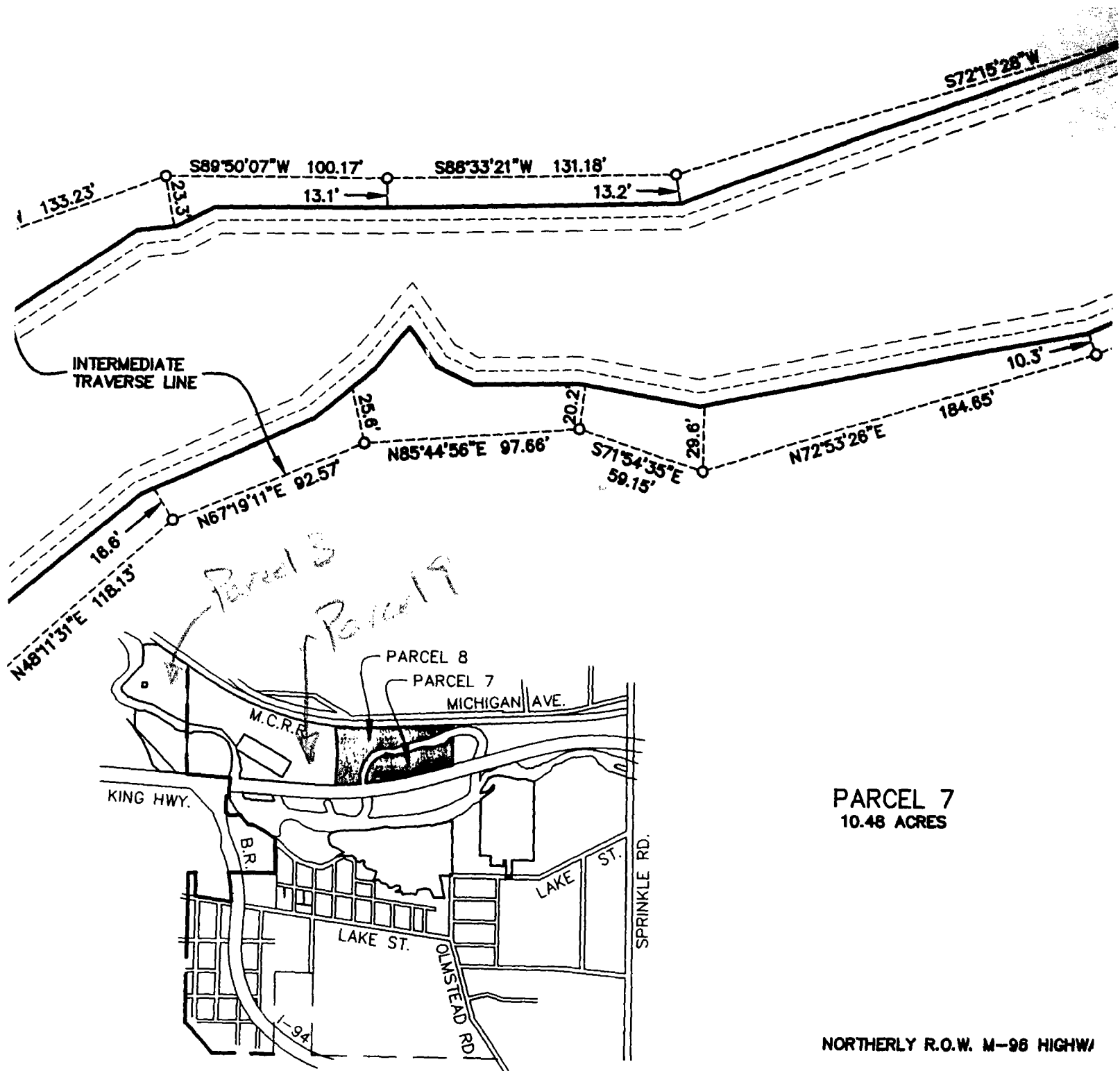
| <u>NO.</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|-------------|--------------------------|-----------------------|---|--------------|
| 28 | 09/29/06 | Chummar, S., U.S. EPA | File | Memorandum re: Data Gathered for Population Description for Georgia Pacific | 6 |
| 29 | 09/27/06 | U.S. EPA | Public | Record of Decision for the Willow Boulevard/ A-Site Operable Unit | 124 |
| 30 | 00/00/00 | Chummar, S., U.S. EPA | Karl, R., U.S. EPA | Enforcement Action Memo- random: Determination of Threat to Public Health, Welfare, or the Environment at the Georgia-Pacific Kalamazoo and Hawthorne Mills Part of the Allied Paper/Portage Creek/ Kalamazoo River Site (PENDING) | |

LIABILITY PORTION OF THE ADMINISTRATIVE RECORD

THE FOLLOWING DOCUMENT HAS BEEN DESIGNATED AS CONFIDENTIAL BUSINESS INFORMATION--NOT
FOR RELEASE AND PLACED IN THE LIABILITY PORTION OF THE ADMINISTRATIVE RECORD

| | | | | | |
|---|----------|-----------------------------------|----------|---|-----|
| 1 | 06/00/01 | AMEC E&C Services, Inc. | U.S. EPA | Response to Final Kalamazoo River Superfund Site Mediation General Site Information Ques- tionnaire Vols. I-III | 300 |
| 2 | 09/00/02 | Blasland, Bouck & Lee, Inc. | U.S. EPA | Draft Final King Highway Landfill Operable Unit Hydrogeologic Monitoring Plan for the Allied Paper Site | 228 |

Appendix 3
(Legal Description of the Kalamazoo Mill Property)



LOCATION MAP
(NO SCALE)

LENGTH = 832.39'
RADIUS = 5629.65'
CHD. = S79°32'53"W 831.63'

KING

(200' PUBLIC R.O.)

DESCRIPTIONS:

Parcel 3 - (Title Bond & Mortgage Co. - Commitment No. FA-48286, dated 03/25/01)


Beginning on the Northerly bank of the Kalamazoo River at the East corporation line; thence Westerly and Northerly on the Northerly and Easterly bank of said river to the Southerly line of MCRR Railroad right of way; thence Southeasterly on said right of way to the East corporation line; thence South on said line to the place of beginning. EXCEPT, A parcel of land commencing at the South 1/4 post of Section 14, T. 2 S., R. 11 W., running thence Easterly along the South line of said Section 14, 643.17 feet; thence North 0°-15'-30" West 55.82 feet for the place of beginning; thence North 0°-15'-30" West 70 feet; thence North 89°-44'-30" East 70 feet; thence South 0°-15'-30" East 70 feet; thence South 89°-44'-30" West 70 feet to the place of beginning. ALSO EXCEPT: Land contained in Liber 117 of Deeds on Page 359 and described as: On the North by the right of way and land owned and occupied by Michigan Railroad Company, on the West by land owned by said Michigan Central Railroad company, on the East by the present course of a small stream known as "Ampersee Creek" and on the South by Kalamazoo River and on the East by a line drawn at right angles to the center line of the present main track of said Michigan Central Railroad and from the center of the culvert of said railroad at that point over said Ampersee Creek at what is known as Station 7505+55 of the main line stationing of said Michigan Central Railroad to said Kalamazoo River. Also a strip of land 10 feet wide lying South of and adjoining the said right of way of said Michigan Central Railroad Company and running from the center of said culvert Easterly a distance of 500 feet.

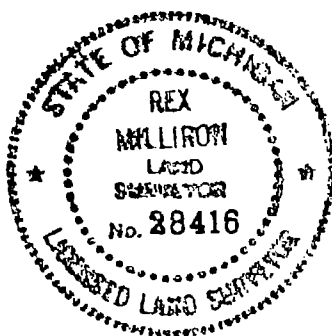
Parcel 3, more particularly described as follows:

Commencing at the 1/4 post common to Sections 14 & 23, T. 2 S., R. 11 W., City of Kalamazoo, Kalamazoo County, Michigan; thence South 89°-43'-51" East along the Section line common to said Sections, 1,331.09 feet to the Corporate Limits of the City of Kalamazoo; thence South 00°-06'-18" East along said Corporate Limits, 471.42 feet to an Intermediate Traverse line along the Kalamazoo River and the place of beginning of the land hereinafter described; thence along said Traverse line for the next 12 courses: North 68°-21'-37" West, 63.91 feet; thence North 64°-49'-28" West, 212.75 feet; thence North 81°-09'-31" West, 194.82 feet; thence North 55°-10'-57" West, 117.59 feet; thence North 75°-16'-42" West, 204.52 feet; thence North 72°-31'-20" West, 180.72 feet; thence North 33°-50'-12" West, 113.70 feet to the Section line common to Sections 14 & 23; thence North 33°-50'-12" West and entering into Section 14, 24.09 feet; thence North 44°-45'-10" East, 157.12 feet; thence North 41°-27'-55" East, 161.43 feet; thence North 34°-15'-28" East, 168.80 feet; thence North 01°-07'-31" West, 246.54 feet to an Intermediate Traverse line along Ampersee Creek; thence North 81°-09'-04" East, 200.62 feet; thence North 49°-13'-53" West, 19.70 feet to the center line of a culvert at what is known as Station 7505+55 of the main line stationing of the Michigan Central Railroad; thence North 33°-57'-18" East along the center line of said culvert, 13.43 feet to a point 10.00 feet South 33°-57'-18" West of the Southerly right-of-way of said Railroad; thence South 56°-02'-41" East parallel with said Railroad right-of-way, 500.00 feet; thence North 33°-57'-19" East, 10.00 feet to said Railroad right-of-way; thence South 56°-02'-41" East along said right-of-way, 55.03 feet to the Corporate Limits of the City of Kalamazoo; thence South 00°-06'-18" East thereon, 867.60 feet to the place of beginning. Except Commencing at the 1/4 post common to Sections 14 & 23, T. 2 S., R. 11 W., City of Kalamazoo, Kalamazoo County, Michigan; thence South 89°-43'-51" East along the Section line common to said Sections, 650.21 feet (recorded as 643.17 feet); thence North 00°-22'-00" West, 53.00 feet (recorded as North 00°-15'-30" West, 55.82 feet) for the place of beginning of the exception hereinafter described; thence continuing North 00°-22'-00" West (recorded as North 00°-15'-30" West), 70.00 feet; thence North 89°-38'-00" East (recorded as North 89°-44'-30" East), 70.00 feet; thence South 00°-22'-00" East, 70.00 feet; thence South 89°-38'-00" West, 70.00 feet to the place of beginning. Containing 16.33 Acres, more or less.

CERTIFICATE:

To Georgia-Pacific Corporation: This is to certify that this map or plat and the survey on which it is based were made in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA, ACSM and NSPS in 1999, and includes Items 1, 2, 4, 7a, 8, 10 & 11a of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA, NSPS, and ACSM and in effect on the date of this certification, undersigned further certifies that the Positional Uncertainties resulting from the survey measurements made on the survey do not exceed the allowable Positional Tolerance.


Rex A. Milliron
Licensed Land Surveyor No. 28416



Parcel 9 - (Title Bond & Mortgage Co. - Commitment No. FA-48286, dated 03/25/01)

Beginning in the South line of the MCRR right of way 898.75 feet East and 489.9 feet South of the Northwest corner of Section 24; thence South 4'-15' East 424.18 feet; thence South 3'-34' West 445.68 feet to the North line of King Highway (M-96); thence West thereon along a curve to the right 515.93 feet to a point of curve, said curve having a radius of 5629.65 feet; thence North 85'-50'-30" West along said North line 920.3 feet to the Easterly bank of the Kalamazoo River; thence Northerly and Westerly along said bank to the Corporation limits of the City of Kalamazoo; thence North thereon 790 feet to the Southerly line of MCRR right of way; thence Southeasterly thereon 2393.5 feet to beginning.

ALSO, Commencing in the East line of Section 23, 1334.15 feet North of the East 1/4 post of said Section, said point being in the North line of King Highway (M-96); thence North 85'-50'-30" West thereon 77.76 feet to the West line of old channel Kalamazoo River for the place of beginning; thence North 85'-50'-30" West 455.81 feet to the East bank of said river; thence Southerly, Easterly and Northerly thereon to beginning, except the North 200 feet for said Highway. EXCEPT, Commencing at the East 1/4 post of Section 23; thence North along the East line of said Section 1334.15 feet to the North line of King Highway (M-96); thence North 85'-50'-30" West thereon 11.98 feet; thence North 35'-33' East 109.3 feet for the place of beginning; thence North 60'-14' West 700.84 feet to the East bank of the Kalamazoo River; thence North 17'-04' West thereon 64.79 feet; thence North 30' East 215.68 feet; thence South 60'-14' East 817.3 feet; thence South 29'-45' West 259.73 feet; thence North 60'-14' West 70.81 feet to beginning. ALSO EXCEPTING: Commencing at the intersection of the Southerly line of the right of way of MCRR and the East line of land of Kalamazoo Paper Co.; thence South along East line of said Kalamazoo Paper Co.'s land 505.4 feet to the Northerly line of a right of way of C.K. & S. Railway Co.'s side track for the place of beginning of this exception; thence Southeasterly along said right of way 192 feet to a point 649.85 feet East and 1017.8 feet South of the Northwest corner of said Section 24; thence Southerly along East end of said right of way of said side track 50 feet to the North channel of the Kalamazoo River; thence Northwesterly along said channel to a point South of the place of beginning of this exception; thence North to the place of beginning.

Parcel 9 - North of M-96 Highway, more particularly described as follows:


Commencing at the Northwest corner of Section 24, T. 2 S., R. 11 W., Kalamazoo Township, Kalamazoo County, Michigan; thence South 89'-46'-51" East along the North line of said Section, 898.75 feet; thence South 00'-00'-00" West, 487.24 feet to the Southerly right-of-way line of the N.Y.C. Railroad (formerly Michigan Central Railroad) and the place of beginning of the land hereinafter described; thence South 04'-15'-00" East, 424.18 feet; thence South 03'-31'-49" West, 445.86 feet to the Northerly right-of-way line of M-96 Highway; thence Westerly along said right-of-way, 514.17 feet along a curve to the right with a radius of 5,629.65 feet and a chord bearing North 88'-38'-55" West, 513.99 feet; thence continuing along said right-of-way, North 88'-01'-55" West, 389.81 feet to the Section line common to Sections 23 & 24; thence continuing along said right-of-way and entering into Section 23 of said Township, North 86'-01'-55" West, 510.22 feet to an intermediate Traverse line along the Kalamazoo River; thence along said Traverse line for the next 6 courses: North 11'-17'-03" West, 51.59 feet; thence North 28'-36'-44" East, 94.77 feet; thence North 24'-46'-02" West, 116.18 feet; thence North 11'-19'-57" East, 31.02 feet; thence North 24'-05'-52" West, 87.99 feet; thence North 04'-10'-55" West, 50.89 feet; thence South 60'-24'-24" East, 701.43 feet; thence South 60'-18'-54" East, 70.81 feet; thence North 29'-27'-18" East, 259.72 feet; thence North 60'-21'-35" West, 817.29 feet; thence South 29'-55'-19" West, 215.72 feet to an intermediate Traverse line along the Kalamazoo River; thence along said Traverse line for the next 3 courses: North 40'-03'-30" West, 347.06 feet; thence North 81'-45'-05" West, 482.81 feet; thence North 88'-21'-36" West, 58.45 feet to the Corporate Limits of the City of Kalamazoo; thence North 00'-06'-18" West along said Limits, 471.42 feet to the Section line common to Sections 23 & 14; thence continuing along said Limits and entering into Section 14, North 00'-06'-18" West, 396.18 feet to the Southerly right-of-way line of the N.Y.C. Railroad (formerly Michigan Central Railroad); thence South 56'-02'-41" East along said right-of-way, 395.64 feet; thence continuing along said right-of-way Southeasterly, 340.62 feet along a curve to the left with a radius of 4,030.00 feet and a chord bearing South 58'-27'-58" East, 340.52 feet to the Section line common to Sections 14 & 23; thence continuing along said right-of-way and entering into Section 23 of said Township Southeasterly, 779.54 feet along a curve to the left with a radius of 4,030.00 feet and a chord bearing South 66'-25'-44" East, 778.32 feet to the Section line common to Sections 23 & 24; thence continuing along said right-of-way Easterly, 919.13 feet along a curve to the left with a radius of 4,030.00 feet and a chord bearing South 78'-30'-15" East, 917.14 feet to the place of beginning. Together with all land lying between the intermediate Traverse line and the Kalamazoo River. Containing 41.47 Acres, more or less.

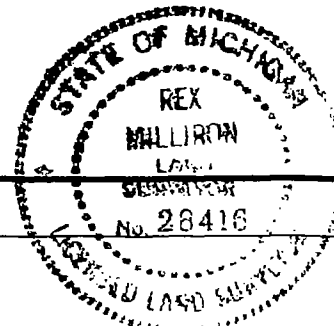
Parcel 9 - South of M-96 Highway, more particularly described as follows:

Commencing at the East 1/4 post of Section 23, T. 2 S., R. 11 W., Kalamazoo Township, Kalamazoo County, Michigan; thence North 00'-00'-00" East along the East line of said Section, 1,132.77 feet to the Southerly right-of-way line of M-96 Highway; thence North 86'-01'-55" West along said right-of-way, 53.63 feet to an intermediate Traverse line along the Kalamazoo River and the place of beginning of the land hereinafter described; thence along said Traverse line for the next 5 courses: South 24'-23'-15" East, 78.33 feet; thence North 87'-51'-16" West, 228.84 feet; thence North 85'-15'-22" West, 182.55 feet; thence North 45'-51'-39" West, 39.61 feet; thence North 25'-54'-57" West, 55.57 feet to the Southerly right-of-way of M-96 Highway; thence South 86'-01'-55" East along said right-of-way, 432.01 feet to the place of beginning. Together with all land lying between the intermediate Traverse line and the Kalamazoo River. Containing 0.94 Acres, more or less.

CERTIFICATE:

To Georgia-Pacific Corporation: This is to certify that this map or plat and the survey on which it is based were made in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA, ACSM and NSPS in 1999, and includes Items 1, 2, 4, 7a, 8, 10 & 11a of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA, NSPS, and ACSM and in effect on the date of this certification, undersigned further certifies that the Positional Uncertainties resulting from the survey measurements made on the survey do not exceed the allowable Positional Tolerance.


Rex A. Milliron
Licensed Land Surveyor No. 28416



NOTES:

Appendix 4
(U.S. EPA Itemized Cost Summary)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

FEB 23 2006

REPLY TO THE ATTENTION OF:

MEMORANDUM

Subject: Superfund Site No. 059B OU # 06
Allied Paper - Georgia Pacific Mill Property, MI
Itemized Cost Summary Request

From: Darius L. Taylor, Financial Specialist
Cost Recovery Team *Darius L. Taylor*
Program Accounting & Analysis Section

Through: Cyprian Ejiasa, Regional Comptroller/FMO
Comptroller Branch *D.L. Taylor for*

To: Eileen Furey, Attorney-Adviser
ORC, **IMMED OFC, MULTI-MEDIA BRANCH II, Section 3**

The attached Itemized Cost Summary outlines all of the cumulative cost expenditures in the Integrated Financial Management System for Allied Paper - Georgia Pacific Mill Property, MI site.

We have computed and included for your information Region V's indirect costs. Based on adjustments recommended by the Office of Inspector General's Superfund audit for Fiscal Years 83 through 86, final indirect cost rates will be \$71.00 (FY83); \$61.00 (FY84); \$53.00 (FY85); \$51.00 (FY86); \$53.00 (FY87); \$64.00 (FY88); and \$64.00 (FY89), respectively. Indirect cost rates for these years were conservative and did not result in allocating all indirect costs to sites. Therefore, starting in FY90 a new full cost indirect cost rate methodology will be applied to Superfund sites.

This essentially means that the new indirect cost rates will be expressed as a percentage of total direct site costs as opposed to a dollar rate per hour (as was true under the old methodology). The resulting indirect cost rates for FY90 through FY 2003 are based on actual costs for those fiscal years and are as follows: 31.03% (FY90), 27.61% (FY91), 29.75% (FY92), 33.32% (FY93), 35.87% (FY94), 26.84% (FY95), 32.57% (FY96), 39.72% (FY97), 38.85% (FY98), 39.21% (FY99), 38.26% (FY 2000), 42.38% (FY 2001), 52.45% (FY 2002), and 55.15% (FY 2003), respectively. Indirect cost rates for FY 2004, FY 2005 and FY 2006 will be 55.15% and are based on FY 2003 costs. These rates are provisional and will be updated upon

subsequent indirect cost calculations.

The third report lists all the non-payroll and indirect cost expenses related to the site, i.e., travel, shipping purchases, state assistance agreements, Interagency Agreements and contractor costs. The reports are current through January 31, 2006. We have also attached a listing that gives definitions of the various object class codes that may appear on the reports.

If you have any questions or require any additional assistance, please contact Darius Taylor at FTS 353-3241.

Attachments

OBJECT CLASS LIST

| OBJECT CLASS | DEFINITION |
|--------------|--|
| 21.11 | Per Diem & Subsistence while on Travel. |
| 21.13 | Common Carrier. |
| 21.14 | Privately Owned Vehicle. |
| 21.15 | Commercial Rental Vehicle. |
| 21.17 | Incidental Costs. |
| 22.09 | Other Transportation - Other expenses such as parcel post, contractual charges for the transportation and care to things. Management & Support Contracts - Contracts for management support, or administrative requirements not otherwise classified. |
| 25.35 | Program Contracts - Planned dollars for contracts which support program operations. Included in this category are contracts for monitoring, for surveillance and analysis, for Regional laboratory analysis and analysis of programs. |
| 25.70 | Interagency Agreements - Contracts and agreements with other Government Agencies. |
| 25.76 | Site Supervision & Development Interagency Agreements - Agreements for the purpose of construction monitoring, investigating, studying and cleaning up hazardous waste sites or emergency response on spills. |
| 31.06 | Protective Equipment and Clothing - Personal. |
| 31.80 | Other Equipment valued at more than \$500. |
| 31.90 | Other Equipment valued at less than \$500. |
| 41.83 | Investigations, Surveys, or Studies Awards to governmental or non-governmental or individuals for investigations, surveys, or studies of solid waste pollution. |
| 41.85 | Superfund Remedial Planning & Implementation Awards to organization or individuals for remedial planning or disposal for hazardous materials. |

Itemized Cost Summary

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

| | |
|------------------------------|--------------------|
| REGIONAL PAYROLL COSTS | \$17,995.10 |
| REGIONAL TRAVEL COSTS | \$830.12 |
| EPA INDIRECT COSTS | \$10,382.13 |
| Total Site Costs: | <u>\$29,207.35</u> |

Regional Payroll Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Hours</u> | <u>Payroll Costs</u> |
|-----------------------------|------------------------|-----------------------|--------------------------|--------------------------|
| BING-CANAR, JOHN R. | 2004 | 09 | 7.50 | 355.00 |
| | | 10 | 4.00 | 189.33 |
| | | 11 | 12.75 | 603.51 |
| | | 13 | 2.50 | 118.34 |
| | | 19 | 2.75 | 133.24 |
| | | 21 | 3.00 | 145.34 |
| | | 22 | 5.00 | 242.22 |
| | | 25 | 3.00 | 145.34 |
| | | | <u>40.50</u> | <u>\$1,932.32</u> |
| BYRD, SHEILA M. | 2004 | 09 | 1.50 | 56.42 |
| FINANCIAL ASSISTANT | 2005 | 21 | 1.00 | 41.39 |
| | | | <u>2.50</u> | <u>\$97.81</u> |
| CIBULSKIS, KAREN L. | 2004 | 09 | 6.50 | 347.07 |
| SIKORA, KAREN L. | | 10 | 4.00 | 213.58 |
| ENVIRONMENTAL SCIENTIST | | | <u>10.50</u> | <u>\$560.65</u> |
| DAVIS, TRACY | 2004 | 09 | 0.25 | 3.58 |
| OFFICE AUTOMATION ASSISTANT | | | <u>0.25</u> | <u>\$3.58</u> |
| FUREY, EILEEN L. | 2004 | 09 | 2.00 | 131.10 |
| GENERAL ATTORNEY | | 10 | 2.00 | 130.74 |
| | | 11 | 2.00 | 131.10 |
| | | 12 | 2.00 | 131.11 |
| | | 20 | 2.00 | 137.66 |
| | | 21 | 5.00 | 344.14 |
| | | 22 | 4.00 | 275.28 |
| | | 24 | 1.00 | 74.34 |
| | | 25 | 4.25 | 315.88 |
| | | | <u>24.25</u> | <u>\$1,671.35</u> |
| HEJMANOWSKI | 2004 | 10 | 3.50 | 106.56 |
| | | 12 | 2.00 | 60.90 |
| | | 19 | 2.50 | 77.81 |
| | | 24 | 3.25 | 101.97 |

Regional Payroll Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Hours</u> | <u>Payroll Costs</u> |
|--|------------------------|-----------------------|--------------------------|--------------------------|
| HEJMANOWSKI | 2004 | 25 | 4.00 | 129.45 |
| | | | 15.25 | \$476.69 |
| MUNO, WILLIAM E. DIRECTOR OF SUPERFUND DIV. | 2004 | 11 | 1.75 | 136.22 |
| | | | 1.75 | \$136.22 |
| NOVAK, DAVID S. PUBLIC AFFAIRS SPECIALIST | 2004 | 27 | 34.00 | 1,644.18 |
| | | | 34.00 | \$1,644.18 |
| ROTH, CHARLES H. | 2004 | 10 | 2.00 | 76.89 |
| | | 22 | 9.00 | 394.68 |
| | 2005 | 18 | 10.00 | 472.08 |
| | | 19 | 5.00 | 236.02 |
| | | 20 | 3.00 | 141.63 |
| | | 22 | 1.50 | 70.83 |
| | 2006 | 06 | 3.50 | 165.23 |
| | | | 34.00 | \$1,557.36 |
| STIMPLE, BRADLEY T. ENVIRONMENTAL SCIENTIST | 2004 | 09 | 1.00 | 48.24 |
| | | 10 | 4.00 | 192.94 |
| | | 11 | 20.00 | 964.70 |
| | | 12 | 3.00 | 144.71 |
| | 2005 | 03 | 1.00 | 50.83 |
| | | 10 | 6.00 | 316.01 |
| | | 11 | 12.00 | 632.03 |
| | | 14 | 2.00 | 105.32 |
| | | 16 | 3.00 | 158.01 |
| | | 17 | 1.00 | 52.69 |
| | | 18 | 3.00 | 158.02 |
| | | 20 | 1.00 | 52.67 |
| | | | 57.00 | \$2,876.17 |
| SUTKER, SHARI L. | 2004 | 10 | 15.00 | 781.80 |
| KOLAK, SHARI L. GEOLOGIST | | 11 | 4.00 | 208.49 |
| | | 22 | 9.00 | 479.42 |
| | | 24 | 1.00 | 53.26 |

Regional Payroll Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Hours</u> | <u>Payroll Costs</u> |
|---|------------------------|-----------------------|--------------------------|--------------------------|
| SUTKER, SHARI L. | 2005 | 10 | 6.00 | 342.83 |
| | | 11 | 9.00 | 540.15 |
| | | 13 | 15.00 | 857.05 |
| | | 17 | 3.00 | 176.01 |
| | | 18 | 24.00 | 1,407.94 |
| | | 19 | 7.00 | 410.65 |
| | | 21 | 1.00 | 58.67 |
| | 2006 | 06 | 28.75 | 1,686.60 |
| | | | 122.75 | \$7,002.87 |
| TAYLOR, DARIUS L. FINANCIAL SPECIALIST | 2006 | 03 | 0.75 | 35.90 |
| | | | 0.75 | \$35.90 |
| Total Regional Payroll Costs | | | 343.50 | \$17,995.10 |

Headquarters Payroll Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

| <u>Employee Name</u> | <u>Fiscal</u> <u>Year</u> | <u>Pay</u> <u>Period</u> | <u>Payroll</u> <u>Hours</u> | <u>Payroll</u> <u>Costs</u> |
|----------------------|------------------------------|-----------------------------|--------------------------------|--------------------------------|
|----------------------|------------------------------|-----------------------------|--------------------------------|--------------------------------|

Regional Travel Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

| <u>Traveler/Vendor Name</u> | <u>Travel Number</u> | <u>Treasury Schedule</u> | <u>Treasury Schedule Date</u> | <u>Travel Costs</u> |
|-----------------------------|--------------------------|------------------------------|---------------------------------------|------------------------|
| BING-CANAR, JOHN R. | TM0188838 | ACHA04084 | 03/26/2004 | 221.80 |
| | | | | <u>\$221.80</u> |
| ROTH, CHARLES H. | TM0187437 | ACHA04056 | 02/27/2004 | 201.82 |
| | | | | <u>\$201.82</u> |
| STIMPLE, BRADLEY T. | TM0290879 | ACHA05067 | 03/10/2005 | 24.70 |
| ENVIRONMENTAL SCIENTIST | | | | <u>\$24.70</u> |
| SUTKER, SHARI L. | TM0234431 | ACHA04231 | 08/20/2004 | 52.69 |
| KOLAK, SHARI L. | TM0291199 | ACHA05074 | 03/17/2005 | 329.11 |
| GEOLOGIST | | | | <u>\$381.80</u> |
| Total Regional Travel Costs | | | | <u><u>\$830.12</u></u> |

Headquarters Travel Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B
Operable Unit(s): 06

Costs Through 01/31/2006.

| <u>Traveler/Vendor Name</u> | <u>Travel Number</u> | <u>Treasury Schedule</u> | <u>Treasury Schedule Date</u> | <u>Travel Costs</u> |
|-----------------------------|--------------------------|------------------------------|---------------------------------------|---------------------|
|-----------------------------|--------------------------|------------------------------|---------------------------------------|---------------------|

EPA Indirect Costs
ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B
Operable Unit(s): 06
Costs Through 01/31/2006.

| <u>Fiscal Year</u> | <u>Direct Costs</u> | <u>Indirect Rate(%)</u> | <u>Indirect Costs</u> |
|--------------------------|---------------------|--------------------------|-----------------------|
| 2004 | 10,302.85 | 55.15% | 5,682.05 |
| 2005 | 6,634.64 | 55.15% | 3,659.00 |
| 2006 | 1,887.73 | 55.15% | 1,041.08 |
| | <u>18,825.22</u> | | |
| Total EPA Indirect Costs | | | <u>\$10,382.13</u> |

EPA Indirect Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|----------------------|--------------------|-------------------|----------------------|----------------------|-----------------------|
| BING-CANAR, JOHN R. | 2004 | 09 | 355.00 | 55.15% | 195.78 |
| | | 10 | 189.33 | 55.15% | 104.42 |
| | | 11 | 603.51 | 55.15% | 332.84 |
| | | 13 | 118.34 | 55.15% | 65.26 |
| | | 19 | 133.24 | 55.15% | 73.48 |
| | | 21 | 145.34 | 55.15% | 80.16 |
| | | 22 | 242.22 | 55.15% | 133.58 |
| | | 25 | 145.34 | 55.15% | 80.16 |
| | | | <u>1,932.32</u> | | <u>\$1,065.68</u> |
| BYRD, SHEILA M. | 2004 | 09 | 56.42 | 55.15% | 31.12 |
| | | | <u>56.42</u> | | <u>\$31.12</u> |
| CIBULSKIS, KAREN L. | 2004 | 09 | 347.07 | 55.15% | 191.41 |
| | | 10 | 213.58 | 55.15% | 117.79 |
| | | | <u>560.65</u> | | <u>\$309.20</u> |
| DAVIS, TRACY | 2004 | 09 | 3.58 | 55.15% | 1.97 |
| | | | <u>3.58</u> | | <u>\$1.97</u> |
| FUREY, EILEEN L. | 2004 | 09 | 131.10 | 55.15% | 72.30 |
| | | 10 | 130.74 | 55.15% | 72.10 |
| | | 11 | 131.10 | 55.15% | 72.30 |
| | | 12 | 131.11 | 55.15% | 72.31 |
| | | 20 | 137.66 | 55.15% | 75.92 |
| | | 21 | 344.14 | 55.15% | 189.79 |
| | | 22 | 275.28 | 55.15% | 151.82 |
| | | 24 | 74.34 | 55.15% | 41.00 |

EPA Indirect Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|----------------------|--------------------|-------------------|----------------------|----------------------|-----------------------|
| FUREY, EILEEN L. | 2004 | 25 | 315.88 | 55.15% | 174.21 |
| | | | 1,671.35 | | \$921.75 |
| HEJMANOWSKI | 2004 | 10 | 106.56 | 55.15% | 58.77 |
| | | 12 | 60.90 | 55.15% | 33.59 |
| | | 19 | 77.81 | 55.15% | 42.91 |
| | | 24 | 101.97 | 55.15% | 56.24 |
| | | 25 | 129.45 | 55.15% | 71.39 |
| | | | 476.69 | | \$262.90 |
| MUNO, WILLIAM E. | 2004 | 11 | 136.22 | 55.15% | 75.13 |
| | | | 136.22 | | \$75.13 |
| NOVAK, DAVID S. | 2004 | 27 | 1,644.18 | 55.15% | 906.77 |
| | | | 1,644.18 | | \$906.77 |
| ROTH, CHARLES H. | 2004 | 10 | 76.89 | 55.15% | 42.40 |
| | | 22 | 394.68 | 55.15% | 217.67 |
| | | | 471.57 | | \$260.07 |
| STIMPLE, BRADLEY T. | 2004 | 09 | 48.24 | 55.15% | 26.60 |
| | | 10 | 192.94 | 55.15% | 106.41 |
| | | 11 | 964.70 | 55.15% | 532.03 |
| | | 12 | 144.71 | 55.15% | 79.81 |
| | | | 1,350.59 | | \$744.85 |
| SUTKER, SHARI L. | 2004 | 10 | 781.80 | 55.15% | 431.16 |
| | | 11 | 208.49 | 55.15% | 114.98 |
| | | 22 | 479.42 | 55.15% | 264.40 |

EPA Indirect Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|--|--------------------|-------------------|----------------------|----------------------|-----------------------|
| SUTKER, SHARI L. | 2004 | 24 | 53.26 | 55.15% | 29.37 |
| | | | 1,522.97 | | \$839.91 |
| Total Fiscal Year 2004 Payroll Direct Costs: | | | 9,826.54 | | \$5,419.35 |

TRAVEL DIRECT COSTS

| <u>Traveler/Vendor Name</u> | <u>Travel Number</u> | <u>Treasury Schedule Date</u> | <u>Travel Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|---|----------------------|-------------------------------|---------------------|----------------------|-----------------------|
| BING-CANAR, JOHN R. | TM0188838 | 03/26/2004 | 221.80 | 55.15% | 122.33 |
| | | | 221.80 | | \$122.33 |
| ROTH, CHARLES H. | TM0187437 | 02/27/2004 | 201.82 | 55.15% | 111.31 |
| | | | 201.82 | | \$111.31 |
| SUTKER, SHARI L. | TM0234431 | 08/20/2004 | 52.69 | 55.15% | 29.06 |
| | | | 52.69 | | \$29.06 |
| Total Fiscal Year 2004 Travel Direct Costs: | | | 476.31 | | \$262.70 |
| Total Fiscal Year 2004: | | | 10,302.85 | | \$5,682.05 |

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|----------------------|--------------------|-------------------|----------------------|----------------------|-----------------------|
| BYRD, SHEILA M. | 2005 | 21 | 41.39 | 55.15% | 22.83 |
| | | | 41.39 | | \$22.83 |

EPA Indirect Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|--|--------------------|-------------------|------------------------|----------------------|--------------------------|
| ROTH, CHARLES H. | 2005 | 18 | 472.08 | 55.15% | 260.35 |
| | | 19 | 236.02 | 55.15% | 130.17 |
| | | 20 | 141.63 | 55.15% | 78.11 |
| | | 22 | 70.83 | 55.15% | 39.06 |
| | | | <u>920.56</u> | | <u>\$507.69</u> |
| STIMPLE, BRADLEY T. | 2005 | 03 | 50.83 | 55.15% | 28.03 |
| | | 10 | 316.01 | 55.15% | 174.28 |
| | | 11 | 632.03 | 55.15% | 348.56 |
| | | 14 | 105.32 | 55.15% | 58.08 |
| | | 16 | 158.01 | 55.15% | 87.14 |
| | | 17 | 52.69 | 55.15% | 29.06 |
| | | 18 | 158.02 | 55.15% | 87.15 |
| | | 20 | 52.67 | 55.15% | 29.05 |
| | | | <u>1,525.58</u> | | <u>\$841.35</u> |
| SUTKER, SHARI L. | 2005 | 10 | 342.83 | 55.15% | 189.07 |
| | | 11 | 540.15 | 55.15% | 297.89 |
| | | 13 | 857.05 | 55.15% | 472.66 |
| | | 17 | 176.01 | 55.15% | 97.07 |
| | | 18 | 1,407.94 | 55.15% | 776.48 |
| | | 19 | 410.65 | 55.15% | 226.47 |
| | | 21 | 58.67 | 55.15% | 32.36 |
| | | | <u>3,793.30</u> | | <u>\$2,092.00</u> |
| Total Fiscal Year 2005 Payroll Direct Costs: | | | <u><u>6,280.83</u></u> | | <u><u>\$3,463.87</u></u> |

EPA Indirect Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

Costs Through 01/31/2006.

TRAVEL DIRECT COSTS

| <u>Traveler/Vendor Name</u> | <u>Travel Number</u> | <u>Treasury Schedule Date</u> | <u>Travel Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|---|----------------------|-------------------------------|---------------------|----------------------|-----------------------|
| STIMPLE, BRADLEY T. | TM0290879 | 03/10/2005 | 24.70 | 55.15% | 13.62 |
| | | | 24.70 | | \$13.62 |
| SUTKER, SHARI L. | TM0291199 | 03/17/2005 | 329.11 | 55.15% | 181.51 |
| | | | 329.11 | | \$181.51 |
| Total Fiscal Year 2005 Travel Direct Costs: | | | 353.81 | | \$195.13 |
| Total Fiscal Year 2005: | | | 6,634.64 | | \$3,659.00 |

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|----------------------|--------------------|-------------------|----------------------|----------------------|-----------------------|
| ROTH, CHARLES H. | 2006 | 06 | 165.23 | 55.15% | 91.12 |
| | | | 165.23 | | \$91.12 |
| SUTKER, SHARI L. | 2006 | 06 | 1,686.60 | 55.15% | 930.16 |
| | | | 1,686.60 | | \$930.16 |

EPA Indirect Costs

ALLIED PAPER, KALAMAZOO, MI SITE ID = 05 9B

Operable Unit(s): 06

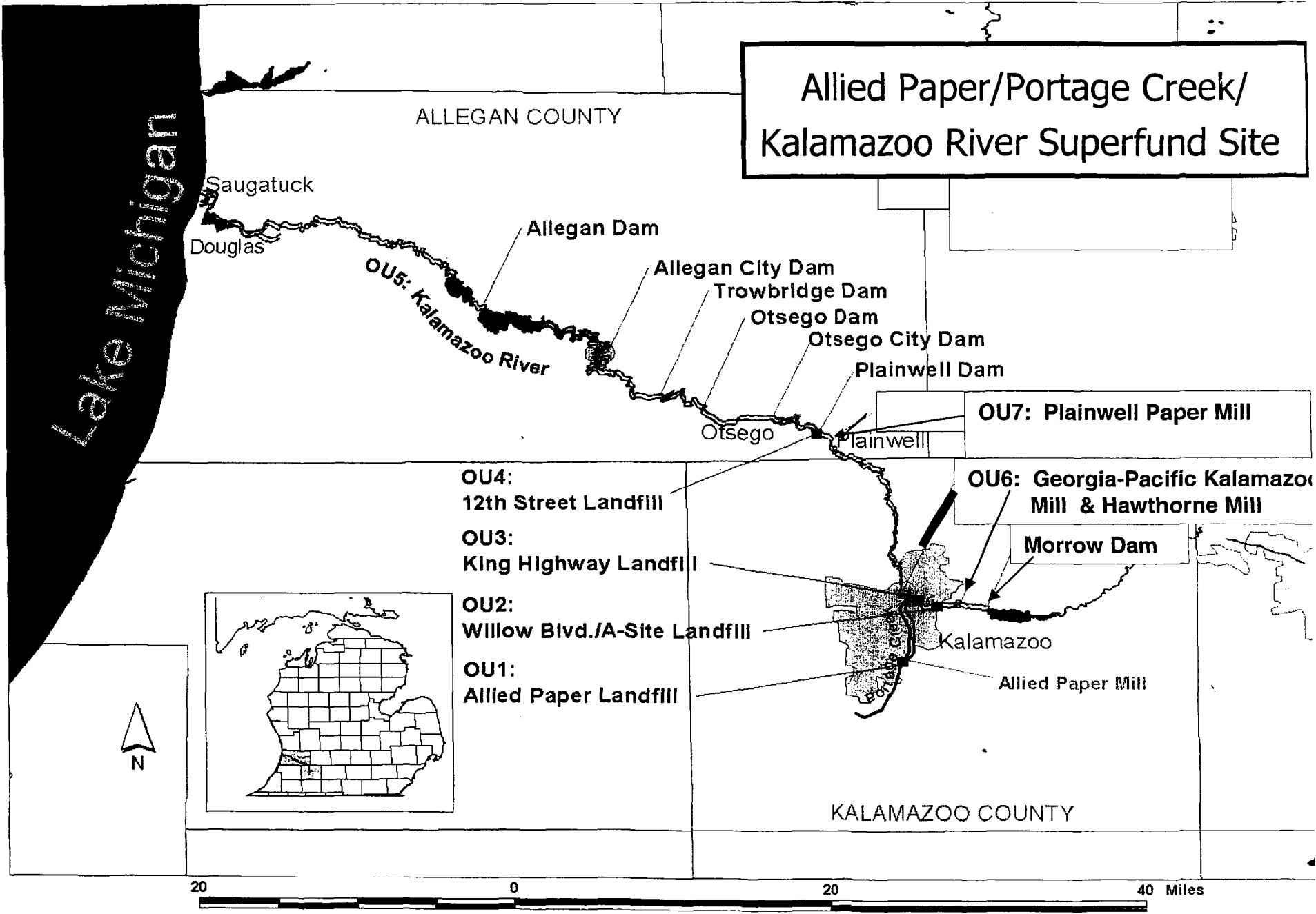
Costs Through 01/31/2006.

PAYROLL DIRECT COSTS

| <u>Employee Name</u> | <u>Fiscal Year</u> | <u>Pay Period</u> | <u>Payroll Costs</u> | <u>Ind. Rate (%)</u> | <u>Indirect Costs</u> |
|--|------------------------|-----------------------|--------------------------|------------------------------|---------------------------|
| TAYLOR, DARIUS L. | 2006 | 03 | 35.90 | 55.15% | 19.80 |
| | | | 35.90 | | \$19.80 |
| Total Fiscal Year 2006 Payroll Direct Costs: | | | 1,887.73 | | \$1,041.08 |
| Total Fiscal Year 2006: | | | 1,887.73 | | \$1,041.08 |
| Total EPA Indirect Costs | | | | | \$10,382.13 |

Appendix 5
(Allied Paper/Portage Creek/Kalamazoo River Site Map)

**Allied Paper/Portage Creek/
Kalamazoo River Superfund Site**



Appendix 6 (Work Plan)

REPORT

***Time Critical Removal Action
Work Plan for the Refuse Area at the
Georgia-Pacific Corporation
Kalamazoo Mill Property and the
Oxbow Area at the
Former Hawthorne Mill Property***

**Allied Paper, Inc./Portage
Creek/Kalamazoo River
Superfund Site
Kalamazoo, Michigan**

May 2006

BBL
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

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Figures

- 1 Georgia-Pacific Kalamazoo Mill and Hawthorne Mill Site Plan
- 2 Location of A-Site Disposal Area
- 3 Project Schedule
- 4 Environmental Monitoring Locations
- 5 Route to Disposal Area

Appendices

- A Anticipated Verification Sampling Grids and Calculations

1. Introduction

1.1 General

This document presents a Draft Time Critical Removal Action (TCRA) Work Plan (Work Plan) for the removal of paper-making residuals (residuals) and soils that contain, or may potentially contain, polychlorinated biphenyls (PCB) from the Refuse Area at the Georgia-Pacific Corporation (Georgia-Pacific) Kalamazoo Mill Property (Kalamazoo Mill Property) and the Oxbow Area at the former Hawthorne Mill Property (Oxbow Area). These properties are collectively referred to as the Mill Properties, (Figure 1) and are associated with the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Superfund Site). This TCRA Work Plan is being implemented in accordance with the Administrative Settlement Agreement and Order on Consent for a Removal Action (Settlement Agreement) 2006. Additional information on the Mill Properties is presented in the *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Description of the Current Situation* (Blasland & Bouck Engineers, P.C. [BBEPC], 1993a).

The goals of the TCRA are:

- removal, to the extent feasible, PCB-containing residuals and soil at the Refuse and Oxbow Areas;
- consolidation of these materials at the A-Site Landfill, a disposal area comprising part of Operable Unit #2 of the Superfund Site;
- performance of verification sampling to document cleanup criterion have been achieved; and
- restoration of the Refuse and Oxbow Areas.

Although not required by the United States Environmental Protection Agency (USEPA), Georgia-Pacific will also remove and dispose of residuals and soils that contain, or may potentially contain, PCB from a wastewater pipeline and an electrical transformer pad located on the Kalamazoo Mill Property.

1.2 Related Documentation

Several existing documents support the removal action activities discussed in this Work Plan, including:

- *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Investigation/Feasibility Study – Field Sampling Plan* (FSP) (BBEPC, 1993b);
- *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Investigation/Feasibility Study – Quality Assurance Project Plan* (QAPP) (BBEPC, 1993c);
- *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Action Turbidity Monitoring Plan* (TMP) (BBL, 1999); and
- *Final King Highway Landfill Operable Unit Closure Erosion and Sedimentation Control Plan* (ESCP) (BBL, 2002).

1.3 Report Organization

The remainder of this report addresses the following:

- Section 2 presents background information related to previous investigations at the Mill Properties;
- Section 3 describes the proposed removal action activities;
- Section 4 presents proposed post-removal site control activities; and
- Section 5 presents references cited in this Work Plan.

2. Previous Activities

2.1 General

This section presents a summary of information related to previous investigations conducted at the Mill Properties. These investigation efforts included:

- Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site – Remedial Investigation (RI) (1993);
- Refuse Area drum removal and sampling activities (1999);
- Focused Soil and Sediment Sampling Program (2000);
- Georgia-Pacific Corporation Kalamazoo Paper Mill Property Divestiture Study/Supporting Materials Report Property Divestiture Study (Property Divestiture Study) (2002); and
- Supplemental soil investigation activities at the Hawthorne Mill Property (2005).

Highlights of the historical investigations at each of the Mill Properties are provided below. More detailed discussions of the investigations, including rationale, sampling approach, and results are included in various investigation-specific reports, as indicated. Although historical information may be presented for several areas of the Mill Properties, as part of the TCRA, removal activities will be focused on the Refuse and Oxbow Areas, and contemporaneously the wastewater pipeline, and electrical transformer pad.

2.2 Kalamazoo Mill Property

2.2.1 RI Activities

The Kalamazoo Mill Property was initially investigated to assess the nature and extent of PCB impacts associated with the Mill's five former onsite lagoons (Mill Lagoons #1 through #5), a former wastewater treatment system clarifier, and storm water runoff as part of the Superfund Site RI activities conducted in 1993. Results were presented in *Technical Memorandum 15 – Mill Investigation* (BBL, 1996). Follow up sampling was conducted in June 1996, and the results were reported in *Final Document in Support of King Highway Landfill Operable Unit RI/FS* (BBL, 1997). These activities were conducted consistent with the requirements prescribed in the AOC (Final Order No. DFO-ERD-91-001) issued by the Michigan Department of Natural Resources (MDNR) in 1991.

2.2.2 Discovery of the Refuse Area

Based on the findings of the RI, remedial actions at the five former Mill Lagoons commenced in 1999 as part of the King Highway Landfill Operable Unit 3 (KHL-OU) response activities. During work at the KHL-OU, which was conducted consistent with the requirements prescribed in the 1991 AOC, deteriorating metal drums were observed in the heavily vegetated area adjacent to the river to the south and west of Mill Lagoons #4 and #5. This area has since been referred to as the Refuse Area (Figure 1). On June 11, 1999 seven solids samples collected from this area were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) analytes and PCB. No PCB were detected in any of the samples. The only TCLP analyte detected was lead, which was identified in one sample at a concentration of 2.2 milligrams per liter (mg/L) (compared to the TCLP regulatory level of 5 mg/L). All other TCLP analysis results were non-detect. In the initial response at the Refuse Area in June 1999, one of the deteriorating drums was removed and disposed of at the EQ landfill in Detroit, Michigan. Additionally, approximately 10 cubic yards (cy) of material excavated from beneath and adjacent to the drums (e.g., drum remnants, soil, white crystals) were disposed in a local Type II landfill. This information is reported in the Property Divestiture Study: BBL, 2003a.

2.2.3 Kalamazoo Mill Property Divestiture Study

In the fall of 2002, as part of the Kalamazoo Mill Property Divestiture Study, soil and groundwater samples were collected from areas at the Kalamazoo Mill Property where available information suggested the potential for PCB-containing materials to be present.

Sampling activities are described in the Property Divestiture Study (BBL, 2003a). PCB were detected in the Refuse Area, in a wastewater pipeline, and in soils beneath an electrical transformer pad. These results are summarized below.

Refuse Area

During removal and disposal of the drums found in the Refuse Area in June of 1999, a variety of construction debris and scrap metal was observed in a number of locations, some of which were visible at the surface. As part of the Kalamazoo Mill Property Divestiture Study, this area was identified as a potential PCB-containing area. In November and December 2002, two soil borings and seven test pits were installed in the Refuse Area (Figure 1), and more than 30 soil samples were collected for PCB analysis.

The seven exploratory test pits were excavated to the depth of the water table. In all cases, the interface between disturbed soils/fill materials and undisturbed native soils was encountered above the groundwater table. Soil sample collection from the Refuse Area test pits was biased toward apparent residuals, if present. In several test pit locations, isolated pockets of residuals were found and discretely sampled. PCB concentrations in the test pit samples ranged from non-detect to a maximum of 330 milligrams per kilogram (mg/kg). The maximum result of 330 mg/kg was for a sample collected from an isolated deposit of residuals located 2.5 to 3 feet below ground surface (bgs). This sample was the only sample with a PCB concentration that exceeding Michigan's Part 201 Natural Resources and Environmental Protection Act (Part 201) Industrial PCB Cleanup Criterion of 16 mg/kg. The next highest sample PCB concentration was 9.7 mg/kg. PCB results for four samples collected between the surface and a depth of approximately 2 feet in this same test pit ranged from non-detect to 2.4 mg/kg, while results for three samples collected between 3 and 9.5 feet bgs ranged from non-detect to 0.81 mg/kg.

Additionally, in December 2002 groundwater samples were collected from two monitoring wells located within the Refuse Area. Neither sample contained detectable levels of PCB at the reporting limit of 0.05 micrograms per liter (µg/L). Additional information is available in the Property Divestiture Study (BBL, 2003a).

Wastewater Pipeline Residuals

The Kalamazoo Mill Property Divestiture Study also included collection of seven soil samples from a wastewater pipeline and a wet well located between the former Mill Lagoons and Mill #1 (Figure 1). The wet well is located near the former Mill Lagoons at the end of the wastewater pipeline, which runs northwest from Mill #1.

PCB concentrations in the seven samples associated with the wastewater pipeline and the wet well – which were biased toward apparent residuals where present – ranged from not detected to a maximum of 31.1 mg/kg in a sample of residuals, scraped from the inside of the wastewater pipeline. The average and median concentrations of these seven samples were 4.9 and 1.3 mg/kg, respectively. Additional information is provided in the Property Divestiture Study (BBL, 2003a).

Although not required by the USEPA, Georgia-Pacific will perform removal activities at the wastewater pipeline contemporaneously with the TCRA at the Refuse and Oxbow Areas.

Electrical Transformer Pad Soils

Soil samples were collected from a test pit excavated at the location of a former transformer pad at Mill #1 (Figure 1) where stained soils were observed. Four samples were collected between depths of 0 and 5 feet bgs. In the 0 to 1 foot bgs interval, PCB were detected at a concentration of 2.6 mg/kg. PCB were not detected in the other three samples. Additional information is provided in the Property Divestiture Study (BBL, 2003a).

Although not required by the USEPA, Georgia-Pacific will perform removal activities at the electrical transformer pad contemporaneously with the TCRA at the Refuse and Oxbow Areas.

2.3 Former Hawthorne Mill Property

2.3.1 Sampling in 2000 and 2002

During RI activities, residuals were observed in the Oxbow Area of the Hawthorne Mill Property. As a result, additional samples were collected from this area as part of the 2000 Focused Soil and Sediment Sampling Program conducted for the Superfund Site. PCB were detected in two samples in the 0.5- to 1-foot layers (220 mg/kg and 2.4 mg/kg). Based on this information, additional sampling was conducted as part of the Kalamazoo Mill Property Divestiture Study to further assess the nature and extent of PCB in the Oxbow Area. The PCB concentrations in the Oxbow Area ranged from non-detect to 490 mg/kg (BBL, 2003a).

2.3.2 Supplemental Investigations

Pursuant to discussions held among the USEPA, the MDEQ, and Georgia-Pacific, additional focused soil sampling was conducted at the Hawthorne Mill Property on April 7, 2005. A total of six test pits were excavated near the former Hawthorne Mill and clarifier located north of the oxbow, and three test pits were excavated within the Oxbow Area for waste characterization purposes. Three of the test pits were excavated to 6 feet bgs, with discrete samples collected at intervals of 2, 4, and 6 feet bgs. The three other test pits were excavated to a depth of 2.5 feet bgs. Test pits in the Oxbow Area were excavated to approximately 2 to 2.5 feet bgs, with samples collected from a layer of residuals at approximately 0.25 to 1 foot bgs. In addition, one sample was collected from an approximately 4-inch diameter steel pipe that was observed in the Oxbow Area.

Some samples were analyzed just for PCB, while others were analyzed for Target Compound List/Target Analyte List (TCL/TAL) pesticides, PCB, semi-volatile organic compounds (SVOCs), metals, and volatile organic compounds (VOCs). PCB concentrations in the Oxbow Area ranged from non-detect to 1.28 mg/kg. Additional information is provided in the *Former Hawthorne Mill Supplemental Soil Investigation Activities Summary* field memorandum (BBL, 2005).

3. Removal Action Activities

3.1 General

Removal action activities at the Mill Properties will consist of the excavation of materials from the Refuse Area, the Oxbow Area, and contemporaneously the electrical transformer pad area and wastewater pipeline, and the subsequent consolidation of these excavated materials at either the A-Site portion of the Willow Boulevard/A-Site Landfill Operable Unit #2 (WB/A-OU) (which is associated with the Allied Paper/Portage Creek/Kalamazoo River Superfund Site) or if appropriate a Type II landfill (excavation areas are shown on Figure 1 and the A-Site disposal area is shown on Figure 2). Georgia-Pacific will procure a removal action contractor (Contractor) to perform the removal action activities, and will provide an onsite representative throughout the removal action to observe and document the activities. Georgia-Pacific's onsite representative will also be present to coordinate and consult with the USEPA on-scene coordinator, as necessary. Information regarding the removal action activities is discussed below. A summary of activities associated with specific areas is provided in the following table:

| Area | Removal Action Activities |
|--------------------------|--|
| Refuse Area | Construct erosion controls, excavate PCB-containing material, characterize/segregate material, consolidate at A-Site or Licensed Landfill, perform confirmation sampling, restore area |
| Transformer Pad Area | Excavate visibly-stained soil, dispose at Type II Landfill as appropriate, post-excavation sampling |
| Wastewater Pipeline Area | Excavate pipeline and wet well, consolidate material at A-Site, post-excavation sampling |
| Oxbow Area | Construct erosion controls, excavate PCB-containing material, dispose at A-Site, perform confirmation sampling, restore area |
| A-Site | Construct erosion controls, grade consolidated material, construct temporary soil cover |

A project schedule for removal activities is presented on Figure 3.

3.2 Pre-Mobilization Activities

Given the nature of the proposed removal action, several pre-mobilization activities are anticipated to occur. These activities are briefly discussed below.

3.2.1 Permits and Approvals

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121(e)(1), since all removal activities will be conducted on-site and consistent with AOC, permits are not required. Substantive requirements will be achieved to the extent practicable, as determined necessary by the USEPA.

3.2.2 Pre-Mobilization Submittals

Prior to onsite mobilization, several documents will be prepared in support of this TCRA Work Plan including:

- Site Specific Health and Safety Plan (HASP);
- Sampling Analysis Plan (SAP) Addendum;
- Quality Management Plan; and
- Post-Removal Site Control Proposal.

These documents will be submitted to USEPA for its approval prior to initiating any on-site removal activity.

3.3 Mobilization/Site Preparation

Prior to initiating removal action construction, the Contractor will perform mobilization and site preparation activities. At a minimum, it is anticipated that the following site preparation activities will be performed:

- Verify existing site conditions;
- Identify the location of, and relocate as necessary, aboveground and underground utilities, equipment, and structures;
- Mobilize personnel, equipment, and materials to the site;
- Clear and grub areas as necessary to perform the removal action activities (e.g., tree removal in the Oxbow Area, removal of debris and miscellaneous aboveground appurtenances in the Refuse Area);
- Construct equipment and material staging/dewatering areas (as necessary);
- Prepare equipment and personnel decontamination areas;
- Establish erosion and sedimentation control measures (as discussed below);
- Construct temporary access roads (as needed) for ingress and egress of construction equipment as well as offsite transportation of excavated materials; and
- Install temporary fencing or barriers as necessary to protect and secure the work areas.

3.3.1 Erosion and Sedimentation Controls

This subsection describes structural controls to be installed before initiating earth-moving activities. In general, erosion and sedimentation controls will be implemented consistent with the ESCP (BBL, 2002), as applicable. The specific locations of erosion and sedimentation controls will be determined and/or modified in the field based on site-specific considerations related to drainage, topography, and work activities. The selection of specific erosion and sedimentation control measures (either land- or water-based) will be based on, but not limited to, the scope of removal activities, site topography, type of ground cover, anticipated run-off from the project area, and operational/maintenance considerations as determined by the USEPA On-Scene Coordinator, in consultation with the Contractor for Georgia-Pacific. Erosion control measures may be necessary at the A-Site Landfill to ensure that the removal activities required by this Work Plan do not result in a release of hazardous substances to the Kalamazoo River. Additionally, certain operational and best management practices (to be defined in the Contractor's site-specific plans) will be implemented throughout the project.

Throughout the duration of the project, erosion and sedimentation control devices will be inspected and maintained and/or modified, as necessary, based on site conditions and site activities. The erosion and sedimentation control devices will be maintained for the duration of the project until site restoration activities have provided a final surface cover (as appropriate).

3.4 Removal Activities

Removal activities at the Refuse Area, Transformer Pad Area, Wastewater Pipeline Area, and Oxbow Area are discussed in the following sections.

3.4.1 Refuse Area

The initial extent of excavation in the Refuse Area will be determined based on visual criteria, and any additional removal will be completed as necessary to achieve a Performance Standard of 10 mg/kg, with a goal of 1 mg/kg. Based on the results of the test pit and soil boring activities conducted in the Refuse Area, it is anticipated that approximately 30,000 cy will be excavated from the Refuse Area and consolidated at the A-Site.

The depth of excavation will extend to the approximate interface with native soils. This interface was identified during test pit construction, and it occurred above the groundwater table at all locations. Excavated materials from the Refuse Area will be disposed of at the A-Site as identified on Figure 2. The disposal area in the A-Site was selected based on consideration of where additional material is needed to raise the site contours to grading design elevations.

In general, excavation activities will commence along the east side of the Refuse Area, directly west of former Mill Lagoon #5. The excavation operations will continue radially outward from the initial point. It is anticipated that excavation activities will be conducted in a staged approach to minimize sloughing and to provide a stable, clean excavation base from which to work. As the excavation activities approach the Kalamazoo River bank, a maximum 10-foot buffer will be left intact along the water's edge, assuming it consists of native material. If this buffer contains materials targeted for removal, a small temporary diversion berm, composed of certified clean fill, will be constructed in the river to isolate the excavation activities from river water prior to removing any buffer materials. Additional excavation in other areas beyond the initial limits may be performed based on visual observations during removal, as well as the results of post-excavation verification sampling.

Following post-excavation verification sampling and confirmation that the established Performance Standard has been achieved, the excavation areas will be backfilled and restored in accordance with the Refuse Area Restoration Plan described in Section 3.6.1.

Materials excavated from the Refuse Area will be segregated during excavation activities. Excavated materials that are deemed unsuitable for placement at the A-Site (i.e., drums, drum remnants, or other questionable materials) will be segregated, characterized, and disposed of appropriately at an offsite disposal facility. Characterization of these materials will include analysis for PCB; TCLP metals, VOCs, SVOCs; and Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics to obtain approval for disposal. Concrete and scrap metals will be segregated and temporarily staged on the foundation floor of the former Mill #5 (Figure 1). Depending on the quantity of materials recovered from the Refuse Area, scrap metals and concrete may be transported offsite for recycling or disposal in a Type II landfill, as appropriate. Other excavated materials (i.e., residuals and soils) will be transported directly to the A-Site and consolidated with existing materials. Excavated materials that contain free liquids will be placed in a temporary lined staging area and gravity dewatered prior to transport to the A-Site. An imported aggregate may be used to solidify excavated material, as necessary. The contractor will be responsible for conducting paint filter testing (USEPA Method 9095A) to evaluate the presence of free liquids in representative samples of material subject to transportation to the A-Site.

3.4.2 Transformer Pad Area

Based on the test pit results at the location of a former electrical transformer, the A-Site or pad adjacent to Mill #1, visibly-stained soils beneath the transformer pad will be removed and disposed of in a licensed Type II landfill, as appropriate. Samples of excavated soil will be analyzed for RCRA hazardous waste characteristics, PCB, TCLP metals, VOCs, and SVOCs to obtain approval for disposal. Following excavation, the area will be backfilled with certified clean backfill material and restored to match surrounding conditions. Although not required by the USEPA, Georgia-Pacific will perform removal activities at the transformer pad contemporaneously with the TCRA at the Refuse and Oxbow Areas.

3.4.3 Wastewater Pipeline Area

As discussed in Section 2, a mill wastewater pipeline exists that runs between Mill #1 and a wet well near the former lagoon area. To address the presence of PCB, the wastewater pipeline and the wet well will be excavated and disposed of at the A-Site. Following excavation, the area will be backfilled with certified clean backfill material and restored to match surrounding conditions. Although not required by the USEPA, Georgia-Pacific will perform removal activities at the wastewater pipeline contemporaneously with the TCRA at the Refuse and Oxbow Areas.

3.4.4 Oxbow Area

The initial extent of excavation in the Oxbow Area will be determined based on visual criteria and any additional removal will be completed to achieve, at a minimum, a PCB concentration Performance Standard of 10 mg/kg, with a goal of 1 mg/kg. This will include excavating soil at the location where PCB were detected at a concentration of 150 mg/kg. It should be noted that the excavation methods are expected to achieve substantially lower levels, which will be documented by verification sampling (see Section 3.9). Based on the results of the soil investigation activities conducted in the Oxbow Area, it is anticipated that approximately 5,000 cy of material will be excavated and consolidated at the A-Site (Figure 2). Additional excavation may be performed based on visual observations during excavation as well as the results of post-excavation verification sampling.

In general, the removal effort will consist of a 2-foot-deep excavation that will be bounded to the south at the Hawthorne Mill Property line, along King Highway. As the excavation activities approach King Highway, existing trees will be protected to the extent practicable, so as to create a visual buffer between King Highway and the excavation area. Excavated materials will be transported to the A-Site and consolidated with existing materials. Trees cleared during excavation activities will be processed with an onsite wood chipper, and the resultant wood chips will be stockpiled onsite for potential reuse. Tree stumps and root systems will be excavated and disposed of at the A-Site. It is anticipated that the excavation will not extend into the banks of the oxbow channel; this will be confirmed in the field by sampling.

Following post-excavation verification sampling and confirmation that the established cleanup criterion has been achieved, the excavation areas will be backfilled and restored as discussed in Section 3.6.2.

Materials excavated from the Oxbow Area will be transported to the A-Site and consolidated with existing materials. Excavated residuals observed to contain free liquids will be placed in a temporary lined staging area and gravity dewatered prior to transport to the A-Site. An imported aggregate may be used to solidify excavated material, as necessary. The contractor will be responsible for conducting paint filter testing (USEPA Method

9095A) to evaluate the presence of free liquids in representative samples of material subject to transportation to the A-Site.

3.5 Liquids Handling and Treatment

Water collected from temporary staging/dewatering areas, decontamination fluids, and other liquids generated during construction activities will be treated onsite at a temporary water treatment system (TWTS) located on the South side of the Area East of Davis Creek. The TWTS will consist of filtration and liquid-phase granular two-stage activated carbon. The two-stage activated carbon treatment system will be used so that rotation and replacement of the carbon tanks will occur immediately upon detection of PCB at the intermediate stage. Water will be collected, handled, treated, monitored, and discharged to Davis Creek (Figure 2). To monitor the TWTS, an influent, intermediate (i.e., between the carbon stages), and effluent wastewater sample will be collected and analyzed for PCBs and total suspended solids (TSS) from the TWTS prior to any discharge of the treated water. Treated wastewater will be stored in 20,000 gallon frac tanks until sampling and analysis confirm that the discharge limitations (i.e., 2.6×10^{-5} µg/L for PCBs and 45 mg/L for TSS) have been achieved prior to discharging the water to Davis Creek. Sampling procedures, preservation and handling, and analytical protocol for monitoring for PCB will be consistent with USEPA Method 608 (the quantification level will not exceed 0.1 µg/L). Analytical methods and detection limits used to analyze the water collected during construction activities will be performed consistent with the QAPP.

3.6 Refuse Area and Oxbow Area Restoration

3.6.1 Refuse Area Restoration Plan

Based on the collective recommendation of the USFWS and the MDNR, the intent of the restoration plan in the Refuse Area is to restore the area as a floodplain. The benefits of restoring the area to a low lying terrace in the floodplain include improved habitat, and increase storage capacity and decrease river velocity during high flow events. Following excavation of the Refuse Area, an approximately 10-foot buffer zone, consisting of native material, is anticipated to remain along the river bank. For the purposes of this Work Plan, the buffer zone will be considered the area between the edge of the Refuse Area excavation and the river bank, at an elevation of 755 feet above mean sea level. Prior to disturbing this material, seven representative samples will be collected from the buffer zone and analyzed for PCB. If the analytical results confirm that PCB concentrations in the buffer zone meet the 1 mg/kg goal, then the existing material will be used as backfill for the Refuse Area.

If during excavation the materials in the buffer zone are observed to contain residuals or are not native material, the buffer materials will be removed after construction of a small temporary diversion berm, as discussed in Section 3.4.1. The berm material will be analyzed prior to its use to confirm that it does not contain PCB concentrations greater than 1 mg/kg.

Following the completion of excavation activities in the Refuse Area, the native material in the buffer zone (or the imported clean material used to create a temporary diversion berm, if necessary) will be used to backfill the Refuse Area. The Contractor will provide certification that the imported clean material used as backfill material is clean. Backfilling will be performed by creating a gradual inclining slope from the edge of the river back to the upland extent of the excavation. Once backfilling and grading activities are complete, the new floodplain will be vegetated and a 5-foot-wide, 6-inch-thick layer of riprap will be installed along the bank of the Kalamazoo River. To the extent practicable the riprap will be placed at the toe of the slope and at or below the waterline. Additionally the riprap will be inspected and maintained for one year as outlined in the post-removal site control proposal. For the purposes of establishing vegetation, material used to backfill the Refuse Area will

be tested to confirm that the pH (between 5.5 and 7.5) and organic content (e.g., greater than 10%) are suitable for establishing vegetative growth. If, based on these criteria, the existing material is deemed unsuitable for establishing vegetative growth, the floodplain area will be covered with a minimum 6-inch layer of topsoil or equivalent and hydroseeded.

3.6.2 Oxbow Area Restoration

Following excavation of the upper 2 feet of material in the Oxbow Area (or more if necessary to achieve the Performance Standard), the excavated area will be backfilled with imported material. Similar to the Refuse Area restoration, backfill material will be tested to confirm that the pH (between 5.5 and 7.5) and organic content (e.g., greater than 10%) are suitable for establishing vegetative growth. The only restoration effort will take place along the bank of the Oxbow Channel, which will be vegetated with woody shrubs, as requested by U.S. Fish and Wildlife Service (USFWS) and MDNR.

3.7 Environmental Monitoring

Environmental monitoring will be conducted throughout the removal action construction activities. Environmental monitoring activities, described below, are anticipated to include dust monitoring, ambient air monitoring for PCB, and turbidity monitoring. Additional information regarding environmental monitoring activities is described below and in the HASP.

3.7.1 Dust Monitoring

Dust monitoring will be conducted periodically (i.e., at a minimum of every two hours) by walking the perimeter of active areas during removal action construction activities that may potentially generate dust. Monitoring will consist of both visible observations of airborne particulates as well as monitoring via a Mini-Ram particulate monitor along the perimeter of active areas. In accordance with National Ambient Air Quality Standards (NAAQS), if airborne particulate concentrations are measured at 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) or above, appropriate dust suppression/control measures will be implemented.

3.7.2 Air Monitoring

PCB will be monitored in ambient air at two locations (Figure 4), with an action level set at $0.02 \mu\text{g}/\text{m}^3$. However, in accordance with Rule 225 (3) of Part 55, Act 451 as amended, a 10-fold increase in the secondary risk screening levels (SRSs) is permitted if the ambient impact occurs on industrial property or public roadways. Given the nature of the physical settings of the removal activities, an action level of $0.2 \mu\text{g}/\text{m}^3$ for the third location shown on Figure 4 will be used, which will be positioned near the work area. If an action level is exceeded, the USEPA will be notified and corrective actions will be taken to reduce emissions. It should be noted, as conditions change or removal activities move to new locations the air samplers may move to new location, as well. Any new air sampler location will be selected after consultation with USEPA OSC.

The air monitoring program will follow the procedures outlined by USEPA Method TO-4A from the *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air* (USEPA, 1999) for sample collection and analysis. Sampling will be conducted daily for 5 days during commencement of remediation activities at the Mill Properties. Samples will be collected during the entire work day. If the first week's data demonstrate that concentrations at the monitoring locations are below the action levels and similar activities are planned for subsequent weeks, the frequency of sampling may be reduced or terminated upon approval by the USEPA. Following a reduction in sampling frequency, if the nature of the work changes significantly, air monitoring may be resumed.

Meteorological data will be recorded during sampling days. Approximate wind direction, wind speed, and general weather conditions will be obtained from the Battle Creek/Kalamazoo International Airport.

Georgia-Pacific's onsite representative will perform and document the air monitoring activities. The ambient air PCB concentration data will be made available for USEPA review as soon as the data are received from the laboratory.

3.7.3 Turbidity Monitoring

Turbidity monitoring will be performed in the Kalamazoo River approximately 100 feet upstream and 100 feet downstream of excavation activities in the Refuse Area during periods of active work. Measurements of turbidity at the mid-depth point of the water column will be recorded daily (2 hours into the start of the work day). Turbidity monitoring will be conducted consistent with the TMP (BBL, 1999).

If excavation activities progress to within close proximity of the oxbow channel, turbidity monitoring may also be performed at appropriate upstream and downstream locations in the oxbow channel, if necessary.

3.8 Decontamination

Field personnel, vehicles, and equipment will be decontaminated before leaving the work area. All field staff will complete the following decontamination procedures prior to leaving the work area:

- Remove significant residual material from outer clothing and boots;
- Remove soiled outer garments and gloves, and deposit them in lined waste receptacles; and
- Decontaminate hard hats and boots with an aqueous solution of detergent or other appropriate cleaning solution, as necessary.

Vehicle or equipment decontamination will consist of cleaning tires and wheel wells. Significantly soiled equipment will be steam cleaned or pressure washed. Wash water will be collected, transported to the onsite TWTS, treated, and discharged to Davis Creek.

3.9 Verification Sampling and Analysis

Verification sampling will be conducted on the floor and walls of the Refuse Area and Oxbow Area excavations to confirm that residual PCB concentrations in the remaining soil are at or below the Performance Standard of 10 mg/kg, with a goal of 1 mg/kg. Twenty percent of the verification samples will also be analyzed for TCL/TAL constituents and compared against the established criteria.

Verification sampling frequency and sampling locations will be determined based on the steps described in *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (MDEQ, 2002). It is anticipated that the sampling grid will be determined in the field for each excavation segment, and samples will be collected in consultation with the USEPA on-scene coordinator following excavation of visible residuals. However, based on the anticipated extent of excavation, proposed sampling grids have been developed as a reference. The anticipated sampling grids and associated calculations are included in Appendix A.

If the analytical results of post-excavation verification samples indicate that PCB are present in soil at concentrations greater than the established criteria, a 20-foot by 20-foot area around the sample location will be re-excavated. A verification sample will then be collected from the floor or wall of the new excavation area and

compared to the appropriate criterion. This process will be repeated as necessary to achieve the appropriate cleanup criterion.

3.10 Consolidation of Materials at the A-Site

Prior to disposal of excavated residuals and soils, the area of the A-Site being used for consolidation of material will be cleared and grubbed. Existing access roads will be used, as appropriate. Figure 5 presents the anticipated route that trucks will travel between the Mill Properties and the A-Site disposal area.

An erosion control blanket will be placed on the consolidated residuals as a temporary erosion control measure until the cover material is placed. The beds of the trucks used to transport the materials from the Mill Properties to the A-Site will be lined and properly covered (e.g., tarp covers).

Once consolidation of materials at the A-Site is complete, a minimum of 12 inches of clean soil will be placed over the newly placed materials and graded to a slope of 4:1, followed by implementation of long-term erosion control measures. Consistent with the ESCP, long-term erosion control will consist of planting shallow-rooted grasses (e.g., a mixture of perennial rye, Kentucky blue, creeping red fescue, timothy, and orchard grass). This will serve as an interim cover until the WB/A-Site OU is closed.

3.11 Documentation

Actions undertaken as part of this Work Plan will be summarized on a monthly basis as part of the monthly reports prepared for this TCRA. Additionally, after completion of all construction activities prescribed in the Settlement Agreement, a Final Report will be prepared and submitted to USEPA for approval.

The Final Report will conform with the requirements set forth in Section 300.165 of the NCP and with guidance set forth in "Superfund Removal Procedures: Removal Response Reporting – POLREPS and OSC Reports". The Final Report will be prepared in accordance with Item 20 of the Settlement Agreement. The Final Report will include, but may not be limited to, the following:

- a summary of removal action activities (e.g., cost, material quantities and disposal destination);
- a summary of analytical results for of all sampling and analyses performed; and
- relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

In addition, the Final Report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

4. Post-Removal Action Activities

4.1 General

Following completion of removal action construction activities at the Mill Properties, several post-removal action activities will be performed, as discussed below.

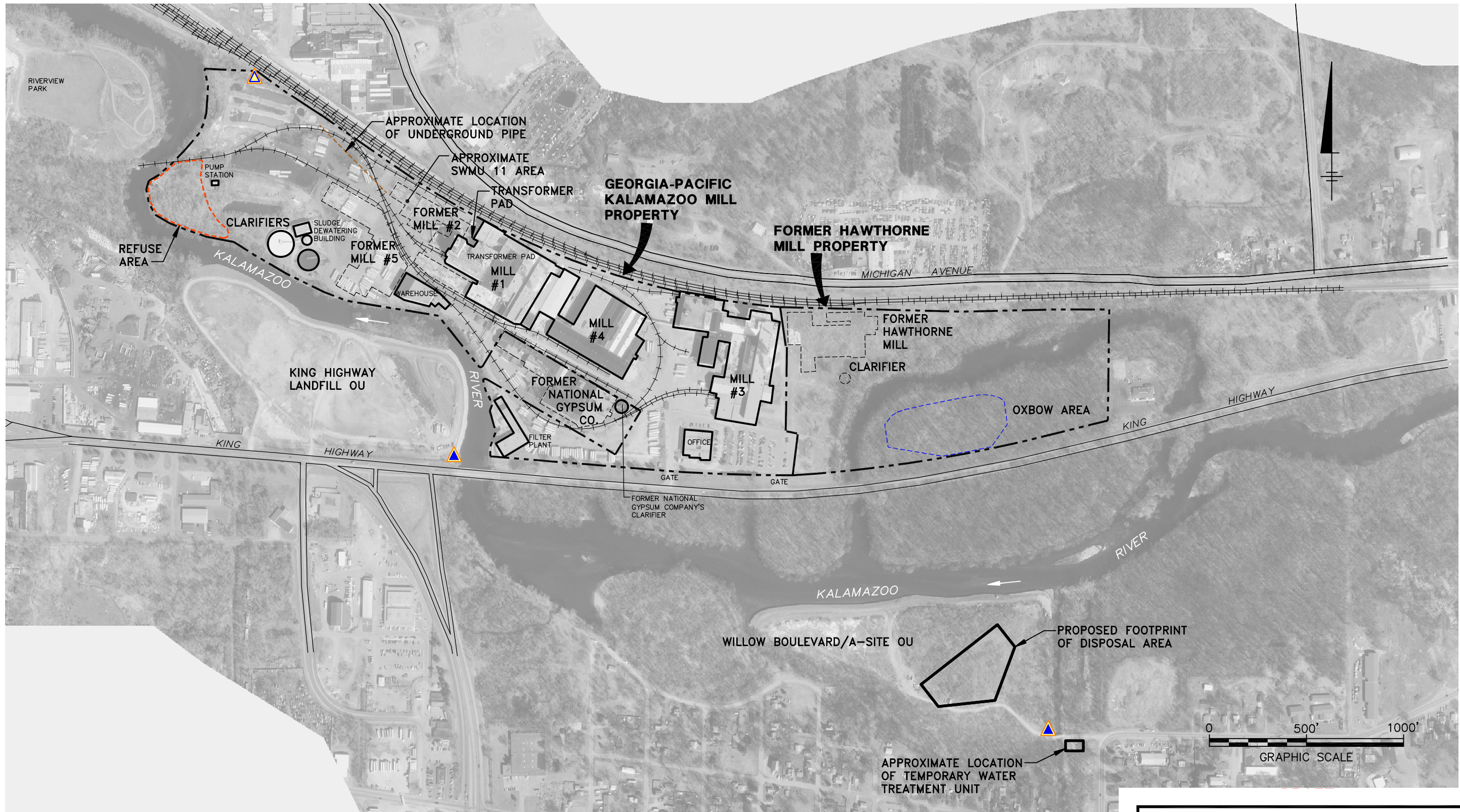
4.2 Post-Removal Site Control Plan

Georgia-Pacific will submit a Post-Removal Site Control Plan for USEPA approval, as required by the Settlement Agreement. The Post-Removal Site Control Plan will be prepared consistent with Section 300.415(1) of the NCP and USEPA's Office of Solid Waste and Emergency Response (OSWER) Directive No. 9360.2-02, and will identify procedures for post-removal operations, maintenance activities, and institutional controls (e.g., deed restrictions), as appropriate. Requirements related to post-removal site controls to be implemented at the Mill Properties are currently identified in Post Removal Site Control Proposal as prescribed in the Settlement Agreement.

5. References

- Blasland & Bouck Engineers, P.C. (BBEPC). 1993a. *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Description of the Current Situation*. (Syracuse, NY: June 1993).
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- USEPA. 1999. *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition*, EPA/625/R-96/010b, January, 1999.

Figures



NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. PROPOSED MONITORING LOCATIONS ARE APPROXIMATE, LOCATIONS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED DURING THE REMOVAL ACTION.

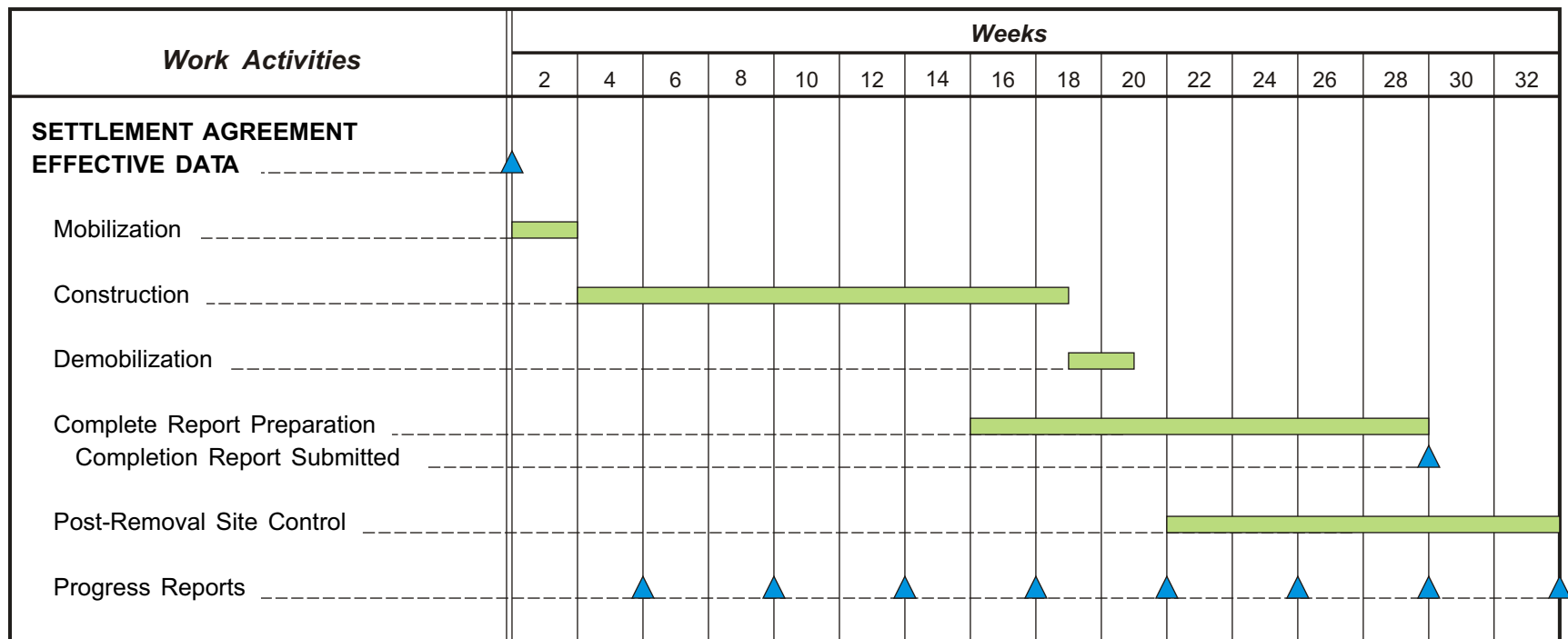
LEGEND:

- | | | | |
|-----------|--|-------|---|
| ----- | APPROXIMATE REFUSE AREA REMOVAL AREA | ----- | APPROXIMATE OXBOW AREA REMOVAL AREA |
| --- | APPROXIMATE BOUNDARY OF KALAMAZOO MILL AND HAWTHORNE MILL PROPERTIES | ▲ | PROPOSED AMBIENT AIR MONITORING LOCATION AND PCB ACTION LEVEL OF 0.2 ug/m3 |
| - - - - - | APPROXIMATE BOUNDARY OF FORMER MILLS | ▲ | PROPOSED AMBIENT AIR MONITORING LOCATION AND PCB ACTION LEVEL OF 0.02 ug/m3 |

GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL PROPERTY
REMOVAL ACTION WORK PLAN

**GEORGIA-PACIFIC KALAMAZOO MILL AND HAWTHORNE MILL
ENVIRONMENTAL MONITORING LOCATIONS**





NOTES:

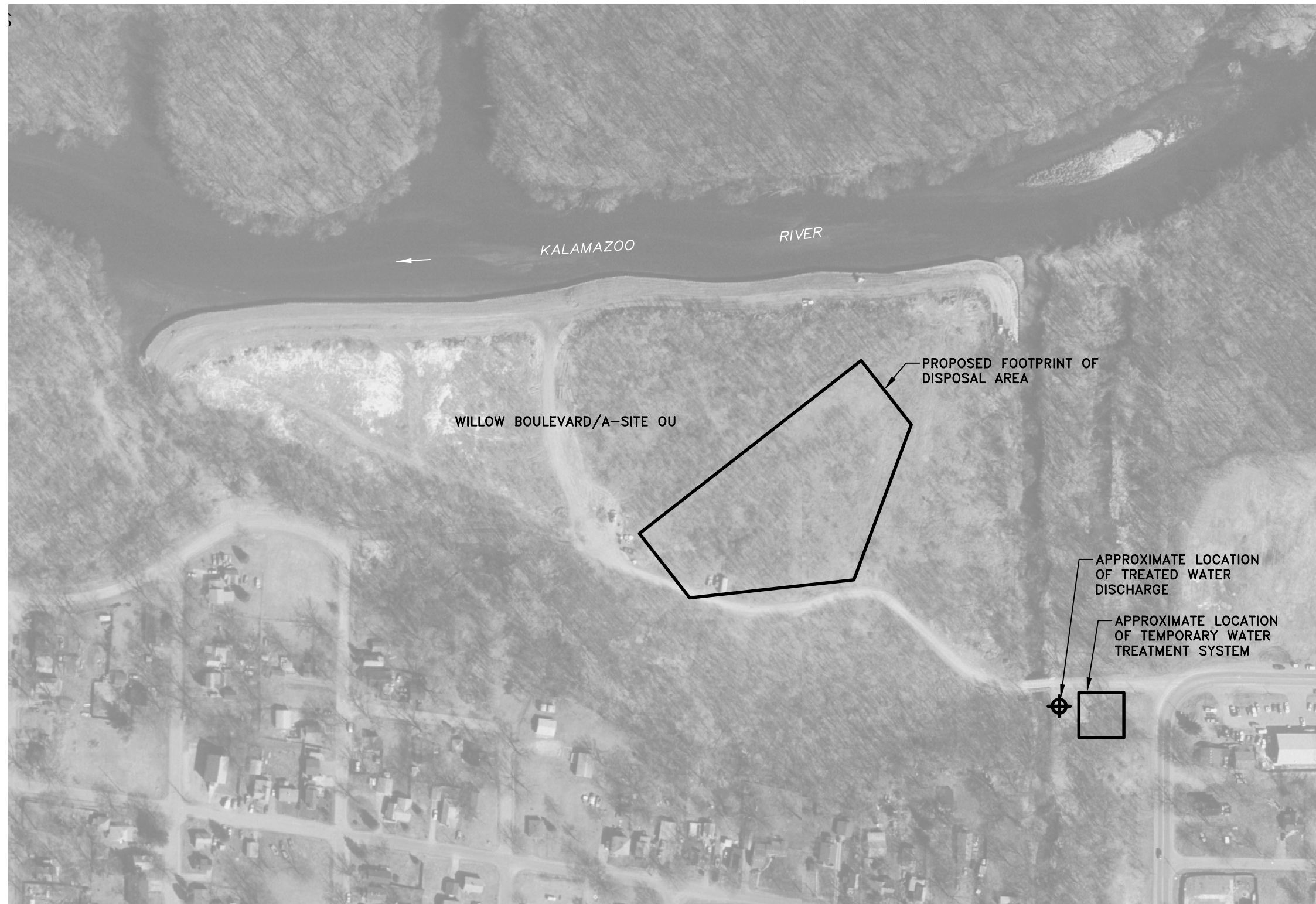
1. Approval to proceed includes approval of TCRA Workplan and associated documents
2. Construction includes removal of material from refuse and oxbow area, transformer pad, wastewater pipeline, and restoration of each area.

GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL AND FORMER HAWTHORNE MILL
TIME CRITICAL REMOVAL ACTION

PROJECT SCHEDULE

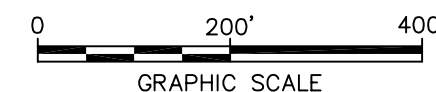
BBL[®]
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
3



NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.



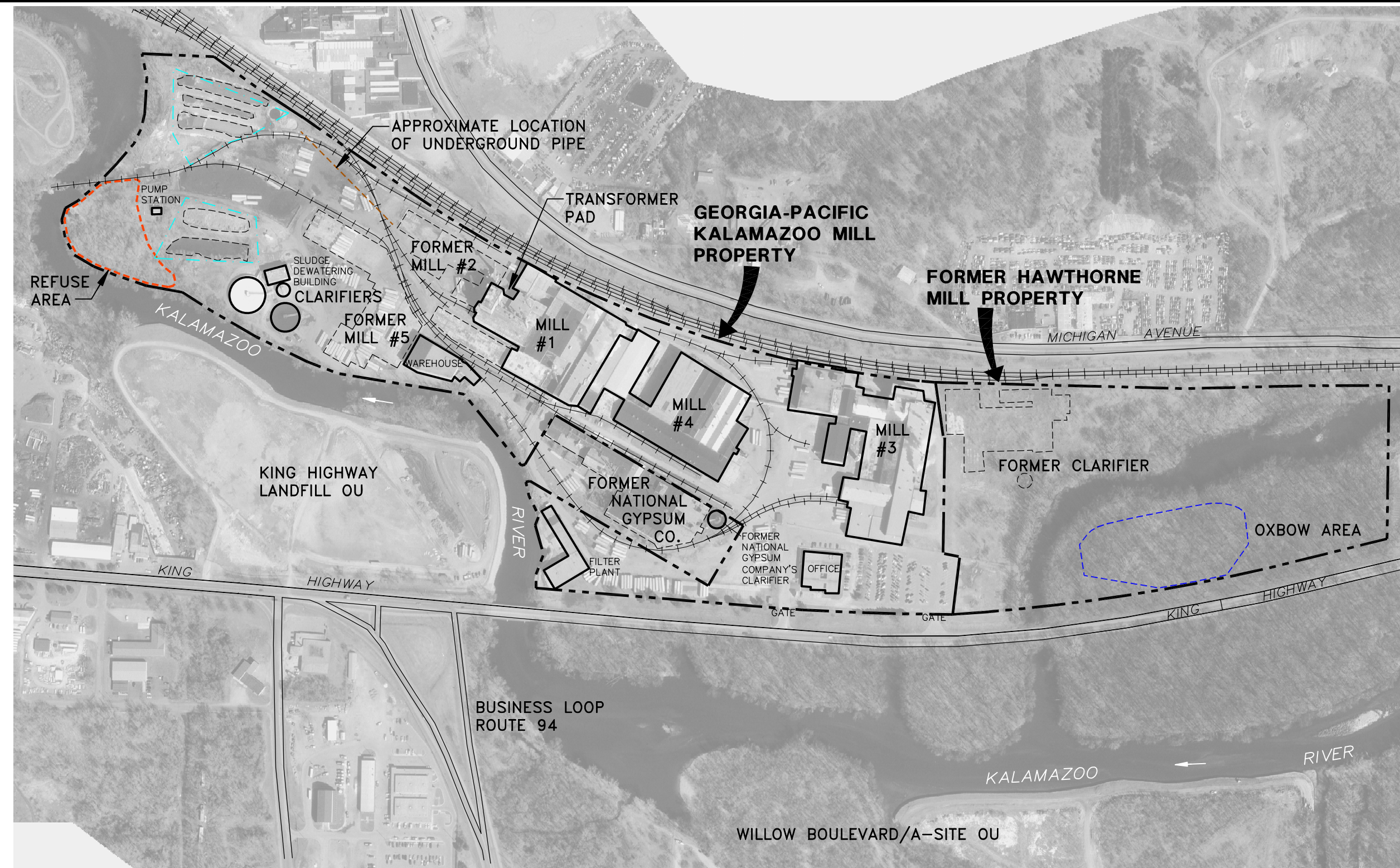
GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL PROPERTY
REMOVAL ACTION WORK PLAN

**LOCATION OF A-SITE DISPOSAL AREA
AND TEMPORARY WATER TREATMENT UNIT**



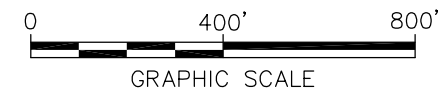
FIGURE
2

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P: PAGESET/PLT-BL
5/15/06 SYR-85-RLP KMD RCA
64585675/RAWP/64585B01.DWG



NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. FORMER MILL LAGOONS EXCAVATED PER KING HIGHWAY LANDFILL—OPERABLE UNIT AOC, 1999–2000.



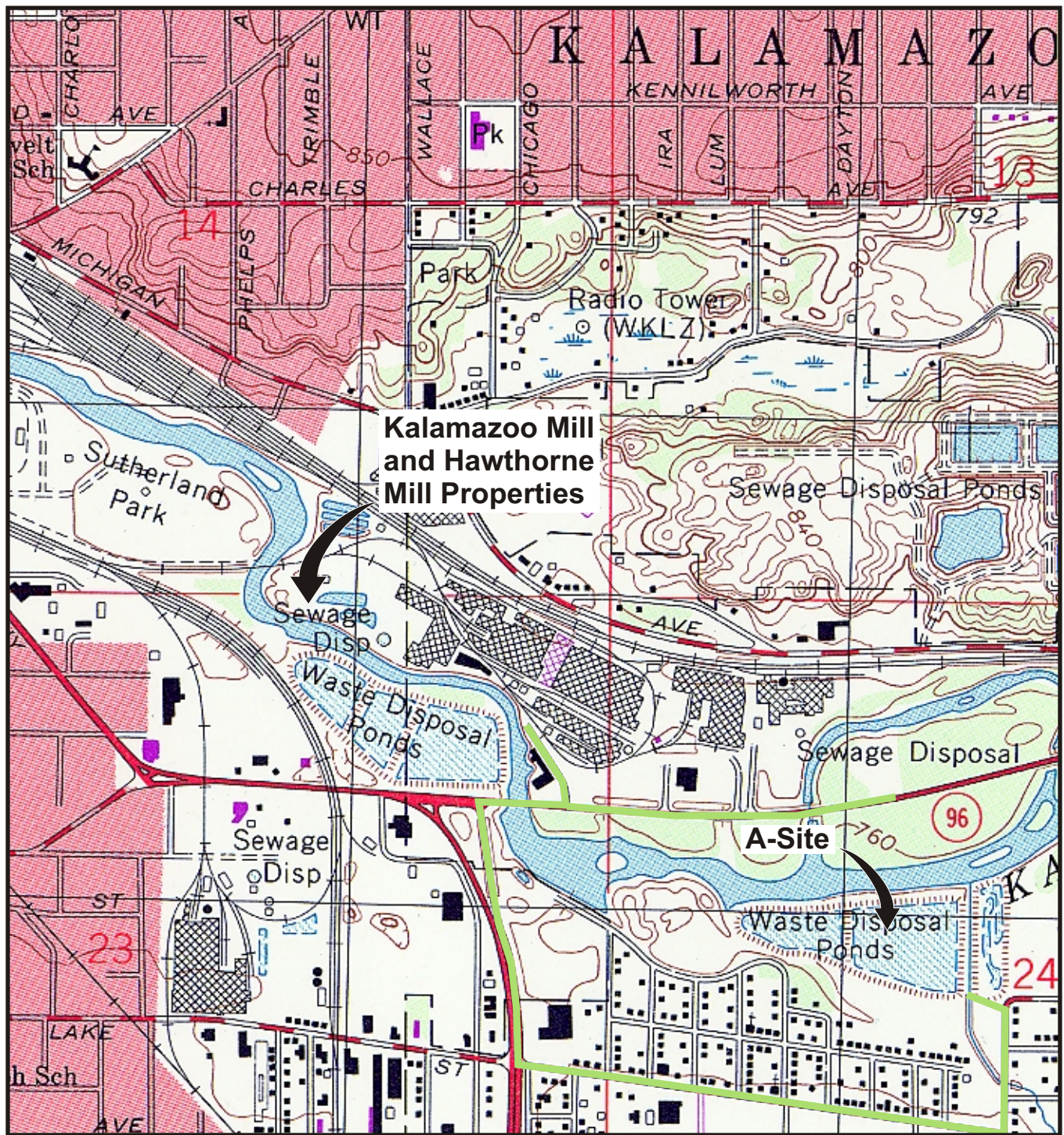
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64585675/RWAP/64585G01.DWG

GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL PROPERTY
REMOVAL ACTION WORK PLAN

**GEORGIA-PACIFIC KALAMAZOO MILL
AND HAWTHORNE MILL
SITE PLAN**

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FIGURE
1



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., KALAMAZOO, MI, 1995.

LEGEND



Approximate Scale: 1" = 1000'

ROUTE TO DISPOSAL AREA



Area Location

GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL PROPERTY
REMOVAL ACTION WORK PLAN

ROUTE TO DISPOSAL AREA

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FIGURE
5

Appendix A

Anticipated Verification Sampling Grids and Calculations

INDEPENDENT VERIFICATION SAMPLING CALCULATIONS – REFUSE AREA AND OXBOW AREA

TIME CRITICAL REMOVAL ACTION WORK PLAN ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE GEORGIA-PACIFIC CORPORATION KALAMAZOO, MICHIGAN

Introduction

Verification sampling is to be performed at the Refuse and Oxbow Areas as part of the paper-making residuals (residuals) removal activities. Verification sampling frequency requirements were determined based on the *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (MDEQ Guidance Document; MDEQ 2004). Independent sampling frequency and location requirements were developed for both the Refuse and Oxbow Areas as these are regarded as separate “sites” in relation to the MDEQ Guidance Document. A sampling strategy that facilitated the selection of unbiased sampling locations using girding was used, pursuant to the MDEQ Guidance Document.

Size of “Site”

As described in the MDEQ Guidance Document, the verification sampling frequency and locations are based on the planimetric area to be remediated, or, as designated in the MDEQ Guidance Document, the size of the “site”. Determination of the “site” size includes calculating the combined area of the excavation sidewalls and base. This calculation, and a discussion of the “site” size based on the MDEQ Guidance Document, is presented below.

Determining the Appropriate Grid Interval

In accordance with MDEQ Guidance Document, the grid interval to be established for verification sample collection is determined based on “site” size (i.e., small, medium or large), and the corresponding total “site” area (sidewall plus base areas). The grid interval for a medium and large-size “site” is calculated using the following equations:

$$\text{Medium Site} \quad \frac{\sqrt{A/\pi}}{4} = G.I. \quad \text{Large Site} \quad \sqrt{\frac{A/\pi}{SF}} = G.I.$$

where:

G.I. = Grid Interval
A = “Site” Area; and
 π = Pi (3.14).

Calculation of the grid interval for both the Refuse and Oxbow Areas are presented below.

Refuse Area

The total area of the Refuse Area excavation, including excavation sidewalls and base, is approximately 103,179 square feet (ft²), thus utilizing the medium site size equation above, the grid interval equals 45 ft. Utilizing a 45-foot grid spacing to establish the verification sample collection locations results in 11 grid stations located within and along the sidewalls of the removal area.

Oxbow Area

The total area of the Oxbow Area excavation, including excavation sidewalls and base, is approximately 173,400 ft², thus utilizing the large site size equation above, the grid interval equals 30 ft. Utilizing a 30-foot grid spacing to establish the verification sample collection locations results in 189 grid stations located within and along the sidewalls of the removal area.

Estimating the Number of Samples to be collected on the Established Grid

As recommended in the MDEQ Guidance Document, a minimum of 9 samples or 25 percent of the total number of grid stations, whichever is larger, should be collected and analyzed as part of the verification sampling program. Applying this guidance information to the Refuse and Oxbow removal areas, and assuming grid intervals of 45 feet (ft), and 30 ft, respectively, the appropriate number of verification samples is determined as described below.

The sample collection requirements for the Refuse and Oxbow excavations are calculated based on the respective areas of the sidewall and base, and the sampling frequency criteria presented in the MDEQ Guidance Document. The table below presents calculations for the Refuse and Oxbow excavations. These calculations are based on the excavation areas presented above, under the *size of the "site"* section.

| Removal Area | Grid Station Area (ft²) | Total Sidewall Area (ft²) | Total Base Area (ft²) | Number of Grid Stations | 25% of Grid Stations | Minimum Number of Samples |
|----------------------|---|---|---|--------------------------------|-----------------------------|----------------------------------|
| Refuse Area | 2,025 | 11,726 | 91,453 | 45 | 11.25 | 11 |
| Oxbow Area | 900 | 3,272 | 170,128 | 189 | 47.25 | 47 |
| Total Samples | | | | | | 58 |

Based on the above calculations, a minimum number of 11, and 47 samples should be taken from each of the Refuse Area and Oxbow Area excavations, respectively, for a total of 58 samples.

CLIENT: Georgia-Pacific Corporation PROJECT: Georgia-Pacific Corporation Kalamazoo Mill and Former Hawthorne Mill Properties
TITLE: Sample Calculations Prepared By: D.O.K. Date: June 2005
SUBJECT: Verification Sampling Calculations – Refuse Area and Oxbow Area Checked By: D.J.H. Date: June 2005

OBJECTIVE:

Determine the frequency of post-excavation verification samples required for the Refuse Area Removal Area and the Oxbow Area Removal Area of the Georgia-Pacific Corporation (Georgia-Pacific) Kalamazoo Mill Property (Kalamazoo Mill Property) and the former Hawthorne Mill Property (Hawthorne Mill Property), respectively.

REFERENCES:

1. MDEQ. 2002. *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (MDEQ. April 14, 2004) Remediation and Redevelopment Division (MDEQ Guidance Document; Lansing, MI: 2002).

ASSUMPTIONS:

1. The removal areas were determined from the approximate Refuse Area Removal Area and Oxbow Area Removal Area limits on Figure 1 of the *Action Removal Area Work Plan* (Work Plan; BBL, 2005). The Refuse Area Removal Area equaled approximately 2 acres and the Oxbow Area Removal Area equaled approximately 4 acres.
2. The perimeter of the assumed excavation areas was determined from the approximate Refuse Area Removal Area and Oxbow Area Removal Area limits on Figure 1 of the Work Plan. The Refuse Area Removal Area perimeter equaled approximately 1,303 square feet (ft²) and the Oxbow Area Removal Area perimeter equaled approximately 1,636 ft².
3. The Refuse Area and Oxbow Area excavation depths were assumed to be 9 feet (ft) and 2 ft, respectively, in accordance with the Work Plan.
4. The site factor (S.F.) for the Oxbow Area Removal Area was determined from the approximate Oxbow Area Removal Area limits on Figure 1 of the Work Plan.

CALCULATIONS:

Sampling Grid Interval Calculations

Consistent with the MDEQ Guidance Document the Refuse Area Removal Area is characterized as a medium site (i.e., an excavation area between 0.25 and 3.0 acres) and the Oxbow Area Removal Area is characterized as a large site (i.e., an excavation area greater than 3.0 acres), as such, the grid interval shall be calculated using the following equations:

$$\text{Medium Site } \frac{\sqrt{A/\pi}}{4} = \text{G.I.}$$

$$\text{Large Site } \sqrt{\frac{A * \pi}{\text{SF}}} = \text{G.I.}$$

where,

G.I. = Grid interval.

A = Area to be grid (ft²). The area equals the sum of the excavation base and sidewalls areas).

CLIENT: Georgia-Pacific Corporation PROJECT: Georgia-Pacific Corporation Kalamazoo Mill and Former Hawthorne Mill Properties
TITLE: Sample Calculations Prepared By: D.O.K. Date: June 2005
SUBJECT: Verification Sampling Calculations – Refuse Area and Oxbow Area Checked By: D.J.H. Date: June 2005

S.F. = Site factor, length of area to be grid (unit less).

Refuse Area Removal Area

Consistent with the MDEQ Guidance Document, the grid interval for a medium site is given by Equation 1. The excavation base area equaled 91,453 ft². The sidewall area was calculated by multiplying the length of the perimeter of the assumed excavation area by the depth of the excavation, and is given by the following:

$$A_{\text{sidewall}} = 1,303 \text{ ft} * 9 \text{ ft} = 11,726 \text{ ft}^2$$

The total area was calculated as the sum of the excavation base and sidewalls, as follows:

$$A_{\text{Total}} \cong 103,179 \text{ ft}^2 \cong 2.37 \text{ acres}$$

$$G.I. = \frac{\sqrt{103,179 \text{ ft}^2 / \pi}}{4} = 45 \text{ ft}$$

Assume a 45 ft grid interval, as such, the number of nodes was determined by:

$$91,453 \text{ ft}^2 / (45 \text{ ft} * 45 \text{ ft}) = 45 \text{ nodes}$$

Consistent with the Guidance Document, the minimum number of samples was determined to be the greater of 9 samples or 25% of the number of nodes:

$$45 \text{ nodes} * 0.25 = 11.25$$

A minimum of 11 post-excavation samples will be taken within the Refuse Area.

Oxbow Area Removal Area

Consistent with the MDEQ Guidance Document, the grid interval for a large site is given by Equation 2. The excavation base area equaled 170,128 ft². The sidewall area was calculated by multiplying the length of the perimeter of the assumed excavation area by the assumed depth of the excavation, and is given by the following:

$$A_{\text{sidewall}} = 1,636 \text{ ft} * 2 \text{ ft} = 3,272 \text{ ft}^2$$

The total area was calculated as the sum of the excavation base and sidewalls, as follows:

$$A_{\text{Total}} \cong 173,400 \text{ ft}^2 \cong 3.98 \text{ acres}$$

CLIENT: Georgia-Pacific Corporation PROJECT: Georgia-Pacific Corporation Kalamazoo Mill and Former Hawthorne Mill Properties
TITLE: Sample Calculations Prepared By: D.O.K. Date: June 2005
SUBJECT: Verification Sampling Calculations – Refuse Area and Oxbow Area Checked By: D.J.H. Date: June 2005

$$G.I. = \sqrt{\frac{173,400 \text{ ft} * \pi}{635}} = 29.29 \text{ ft}$$

Assume a 30 ft grid interval, as such, the approximate number of nodes was determined by:

$$170,128 \text{ ft}^2 / (30 \text{ ft} * 30 \text{ ft}) = 189 \text{ nodes}$$

Consistent with the Guidance Document, the minimum number of samples was determined to be the greater of 9 samples or 25% of the number of nodes:

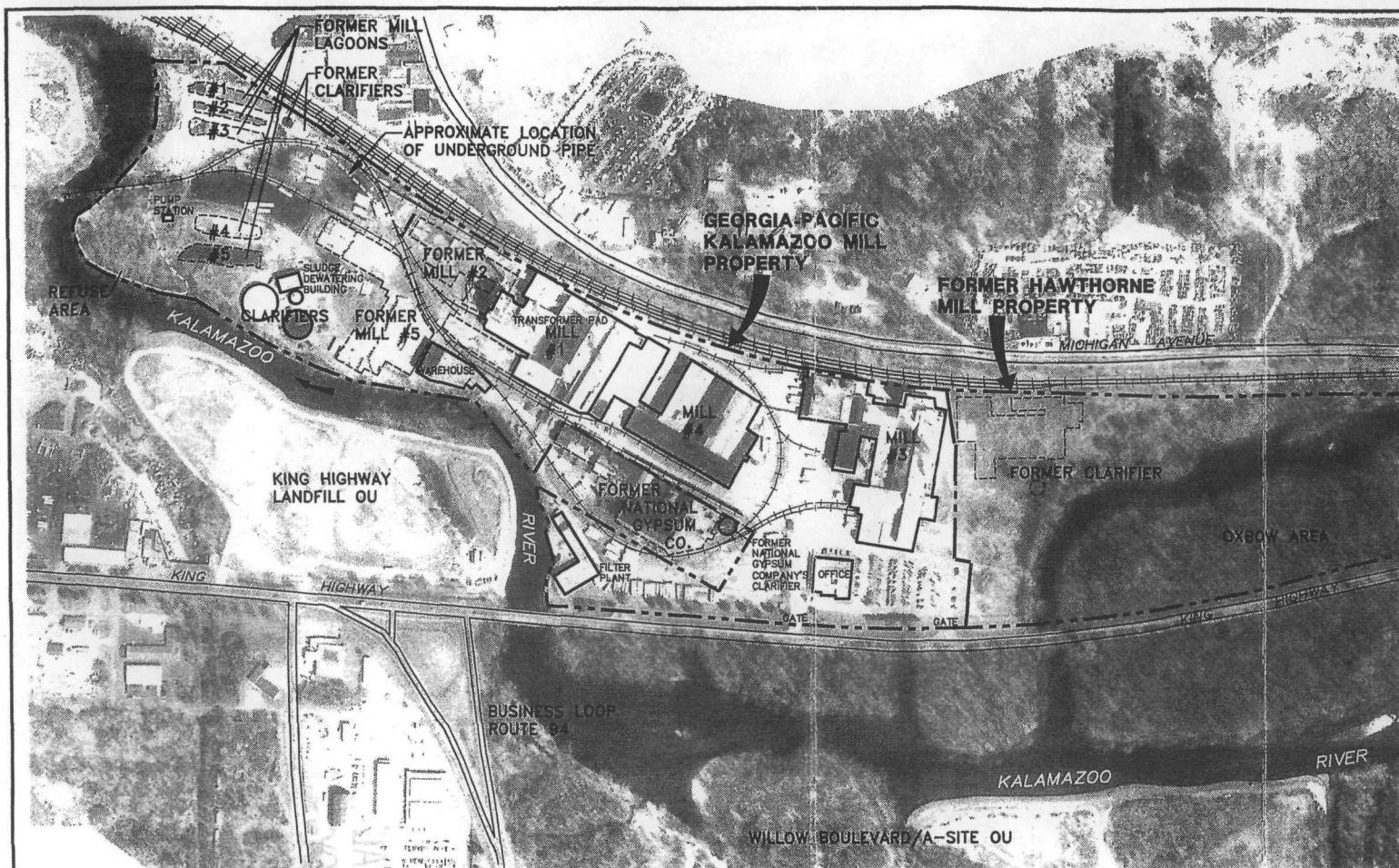
$$189 \text{ nodes} * 0.25 = 47.25 = 47$$

A minimum of 47 post-excavation samples will be taken within the Oxbow Area.

SUMMARY:

Based on the above calculations, a minimum number of 11 and 47 samples should have been taken from the Refuse Area and Oxbow Area excavations, respectively, for a total of 58 samples.

Appendix 7
(Georgia-Pacific Kalamazoo Mill and Hawthorne Mill Site Plan)



LEGEND:

APPROXIMATE EXTENT OF THE REFUSE AREA

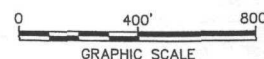
--- APPROXIMATE BOUNDARY OF KALAMAZOO MILL AND HAWTHORNE MILL PROPERTIES

--- APPROXIMATE BOUNDARY OF FORMER LAGOONS AND MILLS

— OUTLINE OF STANDING STRUCTURES

NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. FORMER MILL LAGOONS AREAS EXCAVATED PER KING HIGHWAY LANDFILL—OPERABLE UNIT AOC, 1999–2000.



GRAPHIC SCALE

GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL PROPERTY
TIME CRITICAL REMOVAL ACTION WORK PLAN
**GEORGIA-PACIFIC KALAMAZOO MILL
AND HAWTHORNE MILL
SITE PLAN**

BBL
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engineers, scientists, economists

FIGURE
1

X: 84580X01.DWG, 84585X02.TIF, 84583X03.TIF
L: DM-1, OFF-HIS
P: PAGESET/PLT-BL
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